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PENNSYLVANIA

Game News

ANUARY 1955 10 CENTS



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THE STORY BEHIND THE COVER

THOSE who view Pennsylvania's winter landscape as lifeless, completel shrouded in a mantle of snow or ice, have not yet seen one of our large and finest winter visitors—the American rough-legged hawk. Since early fal it's true, the number of bird species has gradually diminished with eac storm and cold front. But long after the last robin and bluebird, woo cock and warbler, red-winged blackbird and red-tailed hawk have mad their annual southern migration, the rough-legged hawks put in an appea ance. From far north they come—from the Yukon, Hudson's Bay, Labrad and Ungava. Driven south periodically by unusually heavy Arctic storms, th dark-colored Buteo seeks food and shelter in Pennsylvania marshlands.

Past masters in the use of air currents, these great hawks can be see poised motionless in the breeze over a cliff, scaling close to the ground muc like Marsh hawks, or swinging proudly in great circles high up into the bl sky. They hunt almost always in the dim light of a winter sunset or, less ofte in the morning twilight. They are unsuspicious birds and can be approache more easily than most hawks.

As Dr. Poole has so skillfully captured them on this month's cover, th rough-legs are often seen perched on a dead tree stub overlooking a favori hunting ground. The dark-phase adult (upper right) can be identified the sooty black or brown plumage; the immature bird (lower left) by more patterned plumage showing shades of brown, gray and white. T light-color phase adult shown in flight displays longer, but not so broa wings and tail than most Buteos with a broad white patch at the base of t tail. All can best be identified, however, by the full feathering on the le which gives the bird its name.

During its stay in the Keystone State, this rare and irregular visit should be given the protection to which it is entitled by law and which so rightfully deserves. Here is one hawk which feeds almost exclusively meadow mice, those small but powerful enemies of the modern farm Rough-legged hawks are most valuable agricultural assets, a welcome sig to those who keep bird records, and a thing of beauty and grace to anyo who appreciates the great outdoors.

PENNSYLVANIA Game News

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GEORGE M. LEADER, *Governor-Elect*

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Cover Painting
By
Earl Poole

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Outlook for the New Year

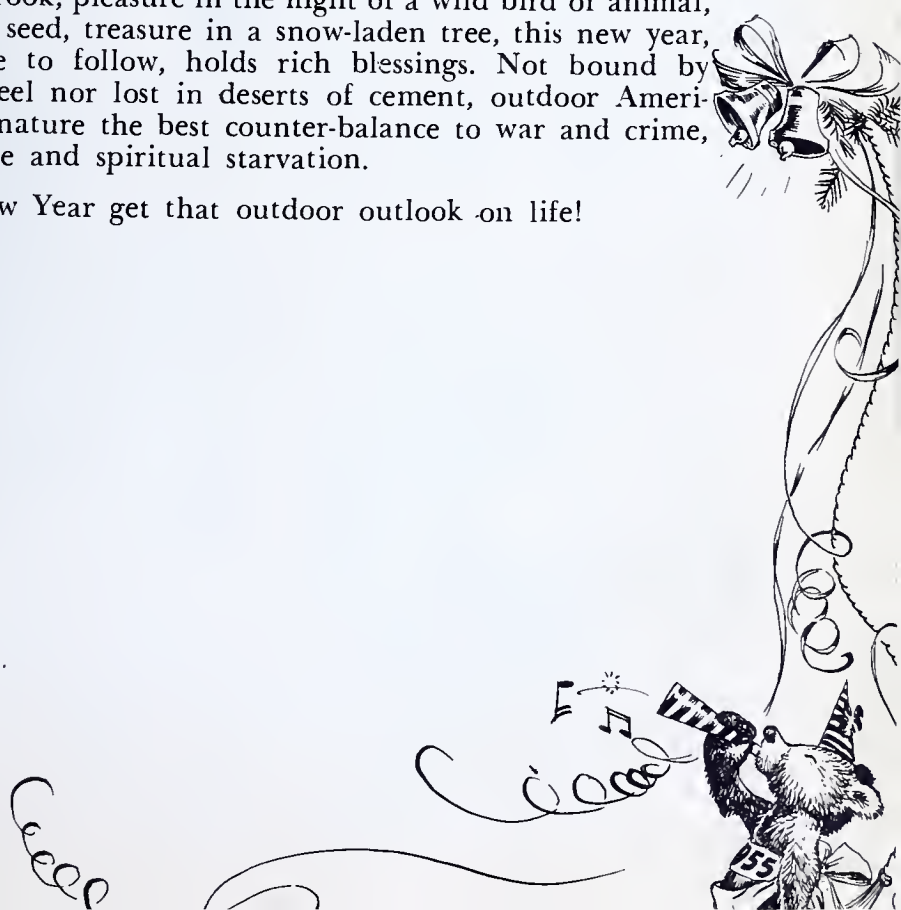
WITH each toll of the bells, every verse of nostalgic song, each heart warming salutation of New Year happiness, there comes to human minds memories of the past and bright hopes for the future. As the old year passes swiftly into history and a new year shines with promise, we pause in joyful celebration to remember and to wish. And in that brief midnight moment we bring into sharp focus our individual outlook on life.

To modern men that outlook may be discouraging, one filled with apprehensions and misgivings. Some of us see only the specter of war and its devastation riding the New Year's night. Others decide their way of life must be geared to the speed of a jet. Still more take the vicious circle of racing against time in search of fame or fortune.

All these, whose only outlook on life centers about personal wealth, material possessions, economic power or social standing, face in each new year a dangerous, troubled world.

But for those who can see value in a flaming sunset, beauty in a crystal brook, pleasure in the flight of a wild bird or animal, promise in a seed, treasure in a snow-laden tree, this new year, like all those to follow, holds rich blessings. Not bound by ribbons of steel nor lost in deserts of cement, outdoor Americans find in nature the best counter-balance to war and crime, mental disease and spiritual starvation.

In this New Year get that outdoor outlook on life!



Outdoor Reveries



Lean White January

By John H. Day

JANUARY woodlands stretch across the hills, mystic and aloof in their somber winter garb. Now comes the midnight of the year. The gaunt forest elders marshal their youngsters about their feet and hold expectant "watch-night" vigil, awaiting the twelve-stroke which will break the spell and release the surging wellsprings of another dawning.

The countryman bundles to the ears and rudely violates the austere solitude of the timberlands. He blunders along in his heavybooted awkwardness, hammering on dead stubs, overturning rooting logs, and otherwise disturbing the brooding quiet of the wooded hills. Even the full symphony of the winter wind in the trees topping the ridges fails to smother the racket of his discordant passage.

As he explores the frosty nooks lying cold and apparently lifeless in the winter sunshine, the countryman wonders how the hardy wildlings of the thickets manage to find enough provender to keep alive. There are no friendship trains dispersing free meals on these remote hillsides. Nor are there surplus stocks bought up under subsidy from the weed patches in the next county.

Despite these handicaps the January lunch counters by the wayside are always well stocked for those who are willing to exert themselves for their meal. Hidden away in the cracks and crevices of every tree in the forest are countless insect tidbits—eggs, larvae and even dormant adults wintering over. The bright searching eyes of the kinglets and the creepers, the nuthatches and the woodpeckers can hunt out a warm breakfast on the frostiest morning.

There is never a crop failure on the lush acres Dame Nature has planted. Centuries of trial and error have evolved prolific varieties which can withstand the "slings and arrows of outrageous fortune." Heavy fruited, these weed stalks hang above the snow, offering zero bounty to the

sparrows, the flaming cardinal, and other seed-eaters foraging through the thickets.

Even the noisome dumps are not without their winter customers. I have seen small flocks of snowbound birds picking up a chance meal at these eyesores, while the rats slept peacefully in their filthy dens deep within the smelly mess. The few pheasants who have survived long enough to "go native" learned, with the squirrels, where the farmer has overlooked a few ears of golden corn.

The squirrel ploughs through the new snowfall and unerringly digs out a beechnut or a butternut. Some sixth sense tells him where to dig and an inexhaustible larder provides the trophy. Except where man himself has upset the balance, this matter of ample provender operates the year round in the woodlands on a supply and demand basis. If the hungry wildling has enough "git up and git" to earn his dinner, he won't starve.

The benevolent hand of Nature, while establishing the "balances" which operate in the wilds, becomes by the same token a hand of scheming deceit to the sparrow or meadow mouse which falls plump victim to the stooping hawk or the silent owl. The snug round spider castles, now seen tied to convenient moorings in the fields, offer striking commentary on the January lunch counters. Within these peaceful-looking cases desperate struggles for existence are now under way. The stronger will devour the weaker and in May the few survivors will step forth to start the cycle anew.

The winter woods have not yet taken down their Christmas decorations. Even after Twelfthnight most of the candles will still be upright in their spreading cups on the tulip poplars. The dangling balls will hang by tenacious threads on the sycamores for many more weeks. Christmas fern and trailing ground cedar will add an evergreen touch to the wayside trails, keeping the festive spirit alive though snows may blanket the hills and ice storms sheathe the mighty oaks.

Deep in the heart of a favorite winter woods I saw a brown mouse-like creature running about the tangled root system of a huge windfall. He was ever on the go, and I didn't get a good look at him until I piqued his curiosity by squeaking like a small bird in trouble. Then he came out on a low branch, bobbing his head at me, and I greeted an old friend, the valiant winter wren.

His mate came from close by, and the pair of them "tut-tutted" at me in annoyance, then continued their foraging on and around the windfallen oak. Smallest of all the wrens, they have a pert, almost comical look. Their stub tails point straight toward the ground, but keep low, flitting their heads. They never get far off from root to root, dodging slyly in and out as they go, ever keeping a suspicious eye on all intruders.

Here in the heart of the winter



woods I had come upon the heart of the winter countryside. No matter how bleak the day, nor how low the mercury, these little brown fellows keep alive the pulse of the turning year. Dodging bravely in and out of their tangled hideaway, they pick up a spider here and a beetle egg there, and wind up the winter of their discontent in bursts of springtime song that fairly overwhelm the unbelieving listener.

The outdoorsman becomes aware once more of the winter voices of the countryside as January wears on. Deep in the remote valleys the winds drive rippling waves in continual attack on the retreating icesheath glazing ponds and dams. The "edge" ice tinkles against this assault, laying the music of a thousand tiny sleigh bells on the quiet air. The frozen pulse of a tree in the depths of the woods scares a year's growth off the countryman by exploding sharply as he passes by.

The winter dusk closes in, bringing wilder voices of the night. The unearthly trumpet of the owl resounds through the frost-stilled air. The fox's gasping bark, one of the wildest sounds of the hill country, marks at intervals his wayward course on some errand of love or free-booting. A mournful and lonesome as the voice of a vagrant spirit comes from the far hills the baying of a hound, hunting alone and unheeded through the wintry snows.



January is not all driving snow squalls and ice-locked pools and biting blasts. All the days of this deep-freeze month are not the lonesome days of silver, when only stars and falling snowflakes sing. Occasionally this month of the Snow Moon opens its mailed fist and reveals a thoroughly delightful prevue of the smiling days that lie just around February's corner. Despite their broken promises these welcome interludes temper the winds to shorn spirits struggling in the slough of winter's despondency.

Every writer worth his salt has felt the poetry of the snow and has humbly tried to capture in mundane words its "frolic architecture." So too the magic of the winter night, when lean white January "stalks the moon," has captured the imagination of writing men of all ages. Even the Hoosier poet, who loved the outdoor delights of midsummer, could sing "when snow is here and the trees look weird, and the knuckled twigs are gloved with frost."

The mail brought one of the joys of January, the first of the new seed catalogs. January is the time for dreaming new garden pictures. This is the moment for new plans and new adventures. First the dream, then the reality. Never were more gorgeous flowers grown, nor sweeter, more toothsome truck crops, than those nurtured by the January fireside.



New York Zoological Society Photo

Time Out — With the Albinos

By Wilbert Nathan Savage

ANIMALS trimly clad in pure white, with pink eyes suggesting a likeness to lustrous gems set with painstaking care in animated mountings, doubtless were a part of the Universe long before man found a fitting name for the ghostly but exquisitely beautiful freaks we know today as *albinos*—derived from the Latin *albus,* meaning white.

Speaking in the language of the geneticist, and going fully into the technical details of what an albino is and how he gets that way, probably would suffocate you or I in a tangle of scientific terms. So it's best to boil the whole thing down to the layman's level and simply say that albinism is caused by the absence of coloring pigment; and is definitely hereditary, with certain rules governing the ratio of frequency and extent that it may occur.

Actually, the eyes of an albino aren't pink in the sense that they contain pink outer coloring. Instead, there is no outer coloring in the iris at all, and the pink appearance is created by the fact that the observer is looking *through* the transparent outer tissues surrounding the pupil, and directly into the blood-filled capillaries of the retina.

These abnormal organs of sight are extremely sensitive to light because too much light finds its way through the clear iris and into the retinal area. Consequently, there is an ever-present need for squinting to shut out some of the excess light. The pigment in normal eyes—black, blue, green, brown, gray, etc.—serves as a regulating filter, and permits only enough light to enter the eye for correctly balanced utilization. Sometimes the eyes of albinos become irritated by the torture of painful light, with blindness resulting in certain cases.

Albinism is not confined to four-

footed mammals. It is present also in birds, fishes, plants, insects, and mankind. It is world-wide in its mystic coverage. A musk-ox near the Arctic Circle may be the only white specimen among thousands of dark-coated brethren; while in Africa a female lion casts a quizzical eye at a white member of her litter; and in Pennsylvania a female crow is fretful over the fact that her young, impudent and ridiculous in plumage of cotton-white, has abandoned the traditional black garb of her kind. On and on, around the globe, in woodland and wasteland, jungle and grassy plain, the birth and development of genuine albinos take place with regularity so persistent that one gathers the hint that a certain number of the creatures must steadily find their way into the world to fill a unique quota determined and maintained by forces so complex that at best we are only partly able to understand them.

Parenthetically, it is interesting here to note that among human beings albinism occurs rarely among some, comparatively often among others. The Zuni and other Indians of Arizona have a high ratio of albinotic births; and the San Blas Indians of Darien have an albino birth rate that is seventy times greater than the European standard! The European races have approximately one albino in every ten thousand inhabitants. True albino humans have white hair, milky skin, and the inevitable "pink" eyes.

Uncounted centuries ago, man was so leary of albino animals that every creature in white offered good reason to tremble in humble awe. Today many of the same superstitions and bizarre beliefs surrounding albinos are kept alive in Africa, Asia, and elsewhere. Hunters in more progressive areas have been known to pass up albino deer, fearing they were ghosts. And in India and Malaya the

ALBINO PHEASANT bagged in Mercer County during the 1954 season by Steve Hardisky, right, of New Wilmington, is admired by Deputy Game Protector Harold Welsh. Bird was donated to local sportsmen's club for mounting and display purposes.

Photo by C. Paul Blair



white elephant, common in American slang, is considered a sacred beast.

The Siamese steadfastly regard albino elephants as sacred, claiming that a specimen is invariably the reincarnation of some deceased king or hero. One captured albino elephant was so revered by the Siamese that they tied it with cords of pure silk and covered its back with a gold cloth. Young girls sang and danced for the "new prince." Young men performed feats of strength and skill before the animal while other men fed it and fanned it. In fact, the animal was so extravagantly stuffed with the richest of herbs, sugar cane, and tasty cakes, all served on huge trays of gold and silver, that he suffered a severe attack of indigestion. On the seventh night of his royal captivity, he died.

One would be going out to a hazardous position on the proverbial limb in setting forth a statement that there are certain mammals and birds which have never had an albino specimen in the clan. I should think it safe, however, to say that no albinos have ever been observed among the members of a given species during the course of an exhaustively checked period. Example: you may see an albino woodchuck only once in many years; and among shrews only one in many thousands bears true albinotic traces. On the other hand, many raccoons in certain localities are albinos, and quite a number of seals are albinos. For some unknown reason the latter, which is usually more cream-colored than white, rarely live to be more than four or five years old, and the eyesight is extremely poor, even when measured strictly by albino standards.

Albino opossums are not exactly rare. Sometimes, though, the coat is white, and yet they lack the pink eyes. They sometimes wear fancy trimmings of black hairs on feet and ears, giving them a distinctive look, or even the appearance of being a phoney with artificial make-up. An opposite extreme is the all-black opossum, which occurs rather abundantly in some regions. This color-variation is called *melanism* because of the excessive presence of the black pigment, *melanin*.

Wolves, sometimes, are almost white, but here again the shade or lack of it is merely a straying away from natural colors. They rarely enter the status of being true albinos.

With something akin to systematic regularity the skunk, squirrel, porcupine, muskrat, bear, weasel, beaver, and other mammals must from time to time tolerate the presence of genuine albinism in their ranks. Albinos among deer are classed as rare, extremely nervous, nearsighted, and very difficult to approach because of their extra-keen sense of smell. Normal-colored deer are afraid of strange albinos, and must spend a lot of time craning their necks and sniffing and pawing before they get used to them.

In the world of feathers and wings, albinos occur fairly often. I, myself, have observed white robins and sparrows and one albino crow—all within the boundaries of Pennsylvania. A few of the other types of birds carrying albinotic traces in a small or total degree with known consistency are the ring-necked pheasant, meadowlark, blackbird, woodpecker, quail, red-tailed hawk, grouse, mourning dove, English sparrow, goldfinch, Cooper's hawk, and others. There is a natural white owl in the northern regions of the continent, but I have never heard of anyone finding a genuine albino owl among the species normally wearing dark or gray colors. Neither have I been able to find evidence that albinism occurs among carrion-eating birds, but I suspect it rarely does take place, just as it does very occasionally among eagles, gulls, ducks, and geese. Certain types of



Photo by Norton, Fish & Wildlife Service

LIKE BLACK SHEEP IN REVERSE this albino bison calf showed up on the National Bison Range in Montana. Among millions of bison roaming plains in early 1880's, only thousand or so are believed to have been albinos.

bats seem to have a tendency toward albinism, but on the whole albinism, and particularly partial albinism, probably occurs more commonly among birds than among mammals.

Some people mistakenly identify creatures wearing white coats in winter and dark ones in summer as true albinos. This, of course, is not the case. These camouflage experts are merely enjoying a nature-arranged color-scheme set up purposely for the well-being of their bodies—protective coloration tied in closely with the age-old principles of environment and survival opportunities for both the hunted and the hunter. The eyes of these color-change artists are normal; and springtime conversion to dark colors is almost always complete in very detail, with no trace of rela tionship to bona fide albinos. Naturally white animals, such as the mountain goat and the white Dall sheep of Alaska, seem to escape almost entirely the visitations of albinism.

In the case of white mice and white rats, the story, of course, is different. They are usually albinos—not naturally so—but because they spring from solidly albinotic foundations. Even so, the pink eyes are sometimes lacking; and this is also true of rabbits and other creatures which man strives to develop through selective breeding so that a coat of white will be the unwavering rule.

I once saw a moseying, fat albino opossum in Somerset county. It appeared to be searching for food just at dusk. As I watched it pilfering along the edge of a stream, I thought of how conspicuous it must be to its enemies. Showing up as sharply as a white signal flag at a shooting match, it certainly knew none of the advantages of protective coloration for summertime masquerading!

Most albinos are gifted with a superb and unnatural power of instinct that warns when danger is imminent. Albinos, according to two reporters for the Academy of Natural Sciences, are admittedly the most difficult of all animals to approach in their wild state—this despite their impaired and squinty vision! As if they are blessed with powers of perception to compensate for physical deficiencies, they combine extra-sensitive hearing with better-than-

average sense of smell and end up surviving longer than many of their less cautious conventionally colored brethern.

The females among both birds and four-footed folk very rarely fail to welcome the presence of one or more young tainted by albinism. While the contrasting colors may stand out like a sore thumb, the mother seems to understand the fact that the little creature belongs to her.

I have never seen an adult albino fox of any type, nor have I ever heard of one; but an acquaintance once told of killing a female red fox which was ready to give birth to what certainly appeared to be an albino kit and a normal-colored youngster.

Reliable outdoorsmen have given me a few accounts of albinos that had crossed their paths in ten to fifty years of regular jaunts afield. One canadian told of having seen a number of albino and part-albino porcupines; and a West Virginia trapper once caught an albino otter. Not realizing the value of the skin, he allowed it to slip through his fingers in a manner that later was chalked up as a total loss!

Among the many millions of bison roaming U. S. plains in the early 1800's, only a thousand or so were believed to be albinos. In fact they were so rare that at least one Indian chief was known to have traded a whole string of his best horses for a single albino bison's hide! Today there is approximately one albino bison for every 1,500 members of our remaining animals.

Reference has already been made to the fact that albinos may be found in all countries and all climates. Pennsylvania may not have an overabundant supply; yet who can say with positive authority that there are not many dozens of true albinotic wild creatures within Keystone boundaries? The fact that most four-footed wildfolk have night-time feeding habits offers plausible explanation as to why albinos that may exist aren't more frequently observed. Would anybody care to hazard a guess as to how many furred and feathered albino wildfolk may be sheltered somewhere in our collection of 67 spacious counties and our sprawling area of 45,333 square miles? It's something engaging to think about—even if you aren't adept at census-taking.



New York Zoological Society Photo

DIFFICULT TO APPROACH IN THE WILD, albinos like this woodchuck are gifted with some super sense that warns them of danger.

Things You May Not Know

Meadowlarks, formerly hunted as game birds, are not larks at all, but actually belong to the blackbird family.

* * *

A rattlesnake has on the average, two (not one) rattles for each year of its age.

* * *

The night hawk perches lengthwise on a tree limb, not crosswise as most birds do.

* * *

The deer family is enormously diversified. It ranges from the massive moose, which is six feet tall and weighs about 1,400 pounds, to the pudu, which weighs up to 24 pounds and stands only 13½ inches at the shoulder.

* * *

The wild boar has its practical uses. Its strong, stiff bristles end up in paint brushes.

* * *



The Hunter

By Paul A. Matthews

THE hunter leaned close to the trunk of the large oak, his clothing hardly discernible against the dark background. He pulled his collar high against the tugging wind and thought for a moment of turning down his fur lined ear muffs, though finally deciding he would rather put up with the cold than to miss hearing the soft foot steps of a deer on the frozen leaves. His ears absorbed all the sounds of the woods, discarding those that were immediately identified and investigating the others.

As he settled into the moody watchfulness of a trained still-hunter, he casually shifted the weight of the rifle across his left fore-arm, with his right hand still on the grip, his finger inside the trigger guard, and his thumb on the natural shaped hammer. In such a position he could swing into action with a minimum of movement and time, which he considered two of the most important elements of the hunt. It was the little preparations like this, the Old Man had told him, that helped make the first shot count.

The still hunter seldom encountered the highly nervous, jumping, impetuous white-tail. He was far more concerned with the sleek doe or antlered buck that moved shadow like from the protection of one blowdown or laurel clump to another without hurrying. These deer, like the hunters that hunted them, had their eyes and ears tuned to the sur-

roundings, tuned for anything the least bit out of place; the throaty call of the blue-jay, the ominous silence of the ever chirping chickadees, a muffled snap of a twig, an odd shaped lump on the side of a tree, and sometimes even a dark blot of a stump that seemed to have changed shape or position. These were the kind of deer that the Old Man had taught Ben to hunt, and this was his way of hunting; walk two steps and stand still three, but always against a background.

It was a far cry from the way he had started hunting years ago when his mother bought him a license and turned him loose in the woods at the age of sixteen. Of course, it wasn't entirely her fault either, she couldn't teach him and he didn't have a father. He wanted to hunt, to kill big game like the men did in the hunting magazines, so she bought him his license and a second or maybe third hand lever action 25-20. A local sport dealer showed him how to load and fire it. On the opening morning of the season in nineteen forty, Ben went hunting with the little rifle and fifty rounds of ammo.

Like a kid he was full of energy and covered ground like a horse on the turf. He saw deer that morning, lots of them, and everything was legal. He plowed through the brush, pushing away the gnarled tangles of laurel in time to thrust the barrel forward and fire a number of shots at the disappearing flag. As long as a flag was in sight he fired at it, sometimes at as many as two or three at a time. The woods seemed full of deer, and to Ben, it was the greatest day of his life.

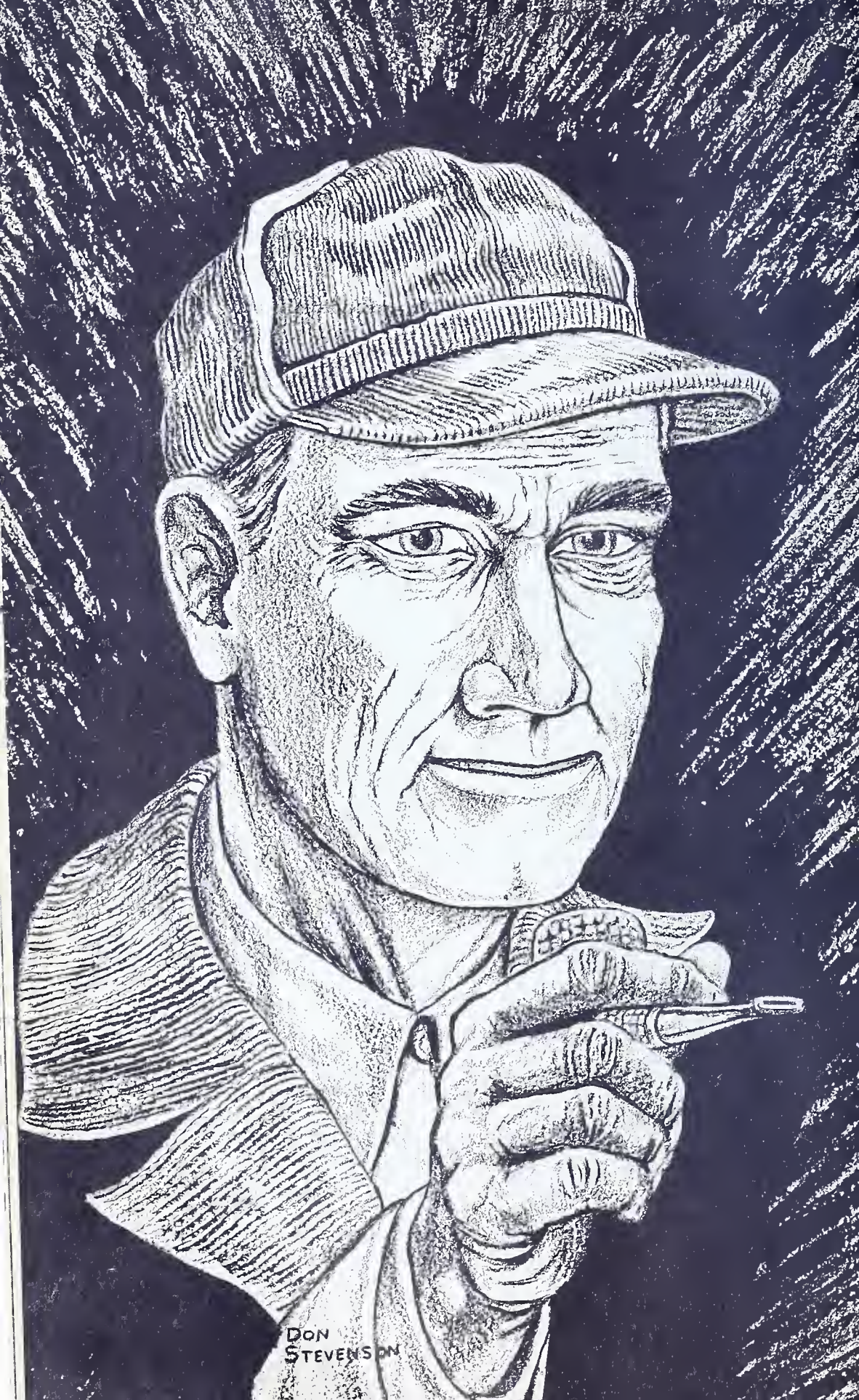
All morning and part of the afternoon he had fired at the fleeing figures with the little rifle, and at the same time he heard other men around him doing the same. The woods were a labyrinth of hunters tracks, and along these tracks he would find empty cartridge cases in the snow, usually three or four. Once he found a single case. He remembered that case, because finding it suddenly made him proud to think that he had been able to fire at least three rounds at every deer he shot at. Only when he found the frozen entrails a little further on—did he realize that it took only one well placed shot. Shortly after that he met the Old Man.

Ben was hunting along a rocky ridge, overlooking a bench, when he heard the cannonading to his right and behind. He swung around, throwing the rifle to his shoulder and running the cartridges through the chamber as fast as he could fire them at the five twisting, leaping figures. He had started to fire the minute he had seen them, and continued until the firing pin 'clicked' on the empty chamber. The deer passed out of sight and he began reloading. Then the Old Man chuckled. Ben saw him sitting with his back against the bole of a beechnut, an amused grin on his leathery face, and a cold pipe clinched in his teeth. What then seemed an enormous rifle, was cradled across his knees.

"Target practicing, young feller?"

The thoughts of target practice




DON
STEVENSON

hurt Ben; he was fast on the trigger. "No, sir. I got out eight shots at those deer. Didn't you see them run across that flat?"

The Old Man nodded. "I saw 'em. Do you think you hit any of them?"

Ben proved his knowledge of woods lore gleaned from much reading. "Nope, mister. I didn't see any of them fall, didn't even see any of them drop their tail. I guess they were going too fast."

"I guess we'd best have a look. You did a lot of shooting and at close range. Must've hit something besides brush." He stood up and looked at Ben, pulling at the sharp stubble on his chin. "How far do you reckon you shot at those deer?"

Ben thought in terms of yards. "Must have been at least a hundred yards."

He thought he saw a grin under the leathery wrinkles and then he walked behind the Old Man as he made a straight line toward the clump of pine where the deer had first come through, counting as he walked.

"Forty-five, forty-six, forty-seven," he said. "Forty-seven paces, or probably forty yards, young feller. Things seem far away in the woods where the ground is rough and the light is poor. A real hundred yards is a long ways. Now you follow this track and I'll take another one until we have found all five tracks and are sure you didn't hit any of them."

Ben was following the track closest to his firing point, and as he drew nearly abreast of that point, he found just a tiny drop of blood on the snow. A few feet further another drop, and then another. He *had* hit a deer! He called the Old Man over and the two of them followed the tracks. The bright spots became more numerous and Ben surged ahead, the blood racing hot through his face. Over behind a blowdown he heard a gurgling sound and saw the doe struggling to get to her feet. The rifle came up but before he could use it the Old Man spoke, "easy now, son, just once through the head." When it was over, his legs became weak and his knees shook so badly he had to sit down. The Old Man cleaned and tagged his deer for him.

"Gee, Mister, thanks, I don't know what I'd have done without you. I'd never have gotten that deer." Ben was pleased now, he had killed his own deer. He was a hunter. The Old Man filled his pipe, lighted it, and pointing the stained stem at Ben, he said, "We've got to go back now and follow down the rest of those tracks."

"Why, I've got my deer?"

"Yes, you've got your deer. And like as not you've got another one or two wounded. We've got to be sure."

This puzzled Ben. He told the Old Man he was sure he hadn't hit any of the others.

"You was sure you hadn't hit *any* of them at first, weren't you? But here you shot one of them through the heart and didn't even know it. Son, deer run a long ways, even when they are hit, especially," and he pointed the pipe stem at Ben, "especially when they are hit in the heart with a small caliber rifle that doesn't let the blood out and the air in. 'Course you're too small to be carrying a cannon like mine here, but you're not too small to check where your shots went. You fired eight shots and killed one deer that we know of. How many other times did you shoot this morning?"

Ben counted out his cartridges. He had twenty-two left. That meant he had fired twenty-eight times, with twenty shots that he hadn't accounted for. Ben could tell what the Old Man was thinking, though he didn't say anymore about it.

"You're not too small to check where your shots went!"

Together they checked the other tracks and when they found no more blood, the two of them went back to Ben's deer and dragged it two miles out of the woods. Ben was still excited about his deer, but the fact that he might have left a wounded one behind, bothered him. He helped do his share of the dragging, and when they finally got the animal home, Ben said, "Boy, I'm glad we didn't get two deer."

The Old Man chuckled. "We would have gotten them out."

"Say, how come you didn't shoot at one of those other deer? You could see them all right, couldn't you?"

"Yes, I could see 'em. I could have shot them too, but I'll tell you something. When you get as old as I am, and have hunted as long as I have, you won't kill anything you don't want. You had never killed a deer before, so that was all you wanted. I want a buck with a rack bigger than any I have ever killed before."

"You mean," Ben blurted, "that you won't shoot any deer this year unless you can kill a big buck?"

"That's right. I've been after a big buck for five years now, and when I see him, I'll have to shoot just once."

As Ben moved away from the tree in short, quiet steps, he remembered how the Old Man had been true to his word. He didn't get the buck that year, but a few years later, while Ben was across, he got the letter. A buck with a perfect fourteen point rack. That was the last year the Old Man hunted, and now as Ben carried his old cannon, putting to use all that he had been taught, he knew that the Old Man pussy footed through the brush beside him.

Find Fertile Farms Favor Furbearers

Furbearer management on soils of high fertility should pay off most quickly and abundantly in terms of effort and land area. This conclusion was reached by the game section of the Missouri Conservation Commission after it had studied the relationship of furbearing animals to soils of varying fertility, according to the Wildlife Management Institute.

The welfare of domesticated animals is influenced greatly by the quality of their food, a factor which is traceable directly to the fertility of the soil on which it is grown. The soil, the Missourians reasoned, comes naturally to the mind as the primary producer of life that encourages the abundance and well-being of furbearers. "Regardless of land use, it is first of all the life-producing capacity of the soil that determines whether or not living conditions for furbearers are potentially suitable on any given area. Land use becomes influential only in determining whether or not that potential is realized. Therefore, it seems logical that the differences in furbearer carrying capacity on two areas under similar land use are rooted in differences in the inherent potential of the soil in the respective areas."

Comparison of the weights of 8,180 raccoons from nearly all of the state's 114 counties revealed that the 'coons were the heaviest and most numerous in the counties having the richest soil. The pelts of these animals also were of the greatest value. Areas of extensive stream mileage and forest cover, where one might expect to find the highest density of raccoons, proved to have a low soil fertility and yielded correspondingly smaller animals and inferior fur harvests. The relationship of soil fertility to animal well-being held also for skunks, red foxes, mink, and muskrats. Only with the gray fox and opossum, animals with a low-scale diet, did this relationship fail to agree.

The Road to Conservation

THE COREY CREEK WATERSHED

By Ivan McKeever

COREY Creek is a small stream draining approximately 15,000 acres in Tioga County, Pennsylvania. It flows east and empties into the Tioga River at Mansfield. U. S. Highway No. 6 runs through the center of this watershed.

Our story would not be complete without telling of the work being done on Corey Creek. Here all of the farmers have decided to travel THE ROAD TO CONSERVATION together.

The Corey Creek Watershed Project was made possible through the pilot watershed act passed by the first session of the 83rd Congress in 1953. This act provided for establishing a number of watershed projects throughout the country for the purpose of learning what could be done in watershed protection and flood prevention through a total conservation program. Investigations indicated that the Corey Creek drainage area met the requirements under the pilot watershed act. Most of the topsoil has been lost from the watershed, and flooding along the main stream of Corey Creek and its branches is common. In fact, most of the bottomland could not be used for crop production because of the hazard of flooding. The project was asked for and sponsored by the Tioga County Soil Conservation District. It was acceptable to the United States Department of Agriculture, to the Soil Conservation Service, and to the agricultural committees in the Congress.

During the fall of 1953 the soil conservation district sponsored meetings of farmers on the small tributaries of Corey Creek for the purpose of encouraging discussions regarding land use and erosion problems on each of the tributary watersheds. In this way, farmers became informed of their real conservation





SCS Photo

COREY CREEK just above its confluence with the Tioga River. Mansfield is seen in the background.

needs and had opportunity to consider ways and means for solving these needs. These discussions also pointed to the desirability of cooperating with the soil conservation district and developing conservation programs for each farm. These deliberations resulted in practically all farmers on the watershed deciding to become members or cooperators with their soil conservation district.

Certain leading farmers on the tributary watersheds had worked closely with the representatives of the soil conservation district board of directors and the Soil Conservation Service technicians in carrying out these small group discussions. It was determined by the board of directors of the district to confer with these leading farmers concerning the possibilities of Corey Creek becoming one of the pilot watersheds in the country. I met with this group of farmers from Corey Creek in late November, 1953 and counselled with them regarding the responsibilities they would have if they were to go ahead and develop a watershed plan under the provisions of the pilot watershed bill. The soil conservation district board of directors and the farmers who attended from the watershed felt that such a project would be very worthwhile to their community. However, before going ahead, they desired that the subject be discussed with all the farmers of the watershed in order that they might collectively determine whether they were interested in a project of this kind. It was decided that this meeting would be held in Mansfield the evening of December 22 and that all farmers and other interested parties from the watershed would be invited. I was asked to attend this meeting by the soil conservation district directors as were Lyman Jackson, Dean of the College of Agricul-

ture, Pennsylvania State University, and Miles Horst, then State Secretary of Agriculture. We talked with the group about the possibilities of organized watershed planning and operation. The turnout to this meeting, although it was in competition with Christmas programs, was beyond expectation. Almost one-hundred people from the watershed were present.

Stanley Hamilton, chairman of the Tioga County Soil Conservation District who was in charge of the meeting, left it up to the group entirely as to whether or not they wanted to go ahead with a watershed program. They not only voted to go ahead but also decided to set up an association in order that they would have their own representatives in on the development of the watershed plan. A committe was designated to prepare bylaws for the association. The farmers of the watershed met again on February 8, 1954 at which time they formally organized the Corey Creek Watershd Association and elected a board of directors. The first board of directors were: Charles Hess, president; Barry Hafer, vice-president; Foster Zenger, treasurer; Stanley Seymour, secretary; Charles Boyden, Merrill Brodrick, LaVere Fogelsonger, Lee Wilson, Will Wilcox, members, and Stanley Hamilton, who represented the soil conservation district.

The U. S. Department of Agriculture gave the Soil Conservation Service the major responsibility for carrying out the Department's responsibilities under the pilot watershed act. In order to secure information on the soil and erosion conditions in the valley, the farmers were assisted during November, 1953, in completing the soil survey. This survey has given all agencies and the farmers information on the soil types, the amount of erosion that has taken place, the steepness of the slopes and the vegetative cover.



SCS Photo
Charles Hess, President, Corey Creek Watershed Association.

Corey Creek is one of sixty-two watersheds approved under the pilot watershed act. It is one of the smaller of these watersheds, with approximately one-hundred farms. However, it seems to be the most outstanding if measured by the interest of the farmers; by the spring of 1954 all farmers had decided to cooperate by asking the district for conservation plans for their farms and by showing, in other ways, their interest in this community conservation project.

The pilot watershed act provided for additional funds for federal assistance with the program. Some of these funds have been used by the Soil Conservation Service to provide additional technicians for watershed planning and individual farm conservation planning, as well as technical assistance in application of conservation practices. Funds have also been made available to the U. S. Forest Service which, in turn, has asked the State Department of Forests and Waters to assist with the forestry



SCS Photo

NEWSPAPER REPRESENTATIVES and others discuss the Corey Creek Watershed Project and watershed planning at a luncheon held in the Penn Wells Hotel during March, 1954.

phase of the program. The Soil Conservation Service has transferred funds to the U. S. Geological Survey to aid them in their cooperative efforts with the Service and the State Soil Conservation Commission in making instrumentation studies of runoff and sedimentation on the watershed.

The Tioga County Soil Conservation District and the Corey Creek Watershed Association have been instrumental in bringing about complete cooperation in the Corey Creek Watershed program by all federal, state and local agencies interested in conservation activity. The State Committee of the Agricultural Stabilization Conservation program made additional funds available to the farmers of Corey Creek to speed up the application of water management practices such as outlets, diversions and terraces. The College of Agriculture of the Pennsylvania State University has assisted in program planning and has taken the leadership in working with the local people in farm management and economic studies. The Pennsylvania Game Commission and the Pennsylvania Fish Commission, along with the Pennsylvania Department of Highways, have also been very helpful in program planning. The Corey Creek Watershed Association has received beneficial support from the sportsmens' groups, the Pomona Grange and the borough of Mansfield. The county commissioners have supported the Corey Creek Watershed program and, in cooperation with the soil conservation district, have assisted in informing people regarding the program throughout Tioga and surrounding counties. The district held a luncheon in March, 1954, for representatives from all newspapers with circulation in Tioga County. The same evening they sponsored a dinner meeting of representatives of banks and industry serving the county. The result of such educational activities has brought about wide-spread understanding throughout Tioga County of the need for group action in watershed planning and in carrying out watershed programs.

It is expected that the technicians of the Soil Conservation Service, as well as those of other cooperating agencies, will make it possible for most farmers to complete their conservation farm plans by late spring of this year. These completed farm plans will give an overall picture of conservation needs in the form of land use adjustments and treatments. Through the cooperation of the State Soil Conservation Commission, the U. S. Geological Survey, and the Soil Conservation Service instrumentation installations will have been carried out in the watershed by spring. The U. S. Forest Service and the Pennsylvania Department of Forests and

Waters are helping farmers to complete the studies for woodland management needs for their farms. The Pennsylvania State University will begin this spring to work with farmers individually in making economic studies and giving farm management assistance.

The first complete draft of the watershed plan was completed in September, 1953. Copies were then submitted to the Department of Agriculture in Washington, D. C., and were distributed to all interested federal, state and local agencies and groups. This plan does not provide for any dams or water retention structures. Complete surveys were made of the main stream and the tributary streams of the watershed. Complete investigations were made on the sixteen most promising sites for water retention structures. Total impoundment of these sixteen dams was estimated at approximately 1,000 acre feet. These complete surveys and studies brought out the fact that the possible benefits down stream from individual structures would not justify the expenditures on the impoundment structures themselves. The method of analysis for justification of water retention structures is similar to methods used by other federal and state agencies. It is expected that additional studies will be made to see if at least some of these structures may be justified.

Whether water retention structures become a part of the Corey Creek Project remains to be seen. However, whether they are or not, the community action or group spirit in carrying out a program on Corey Creek is going to result in the major benefits as originally conceived. The



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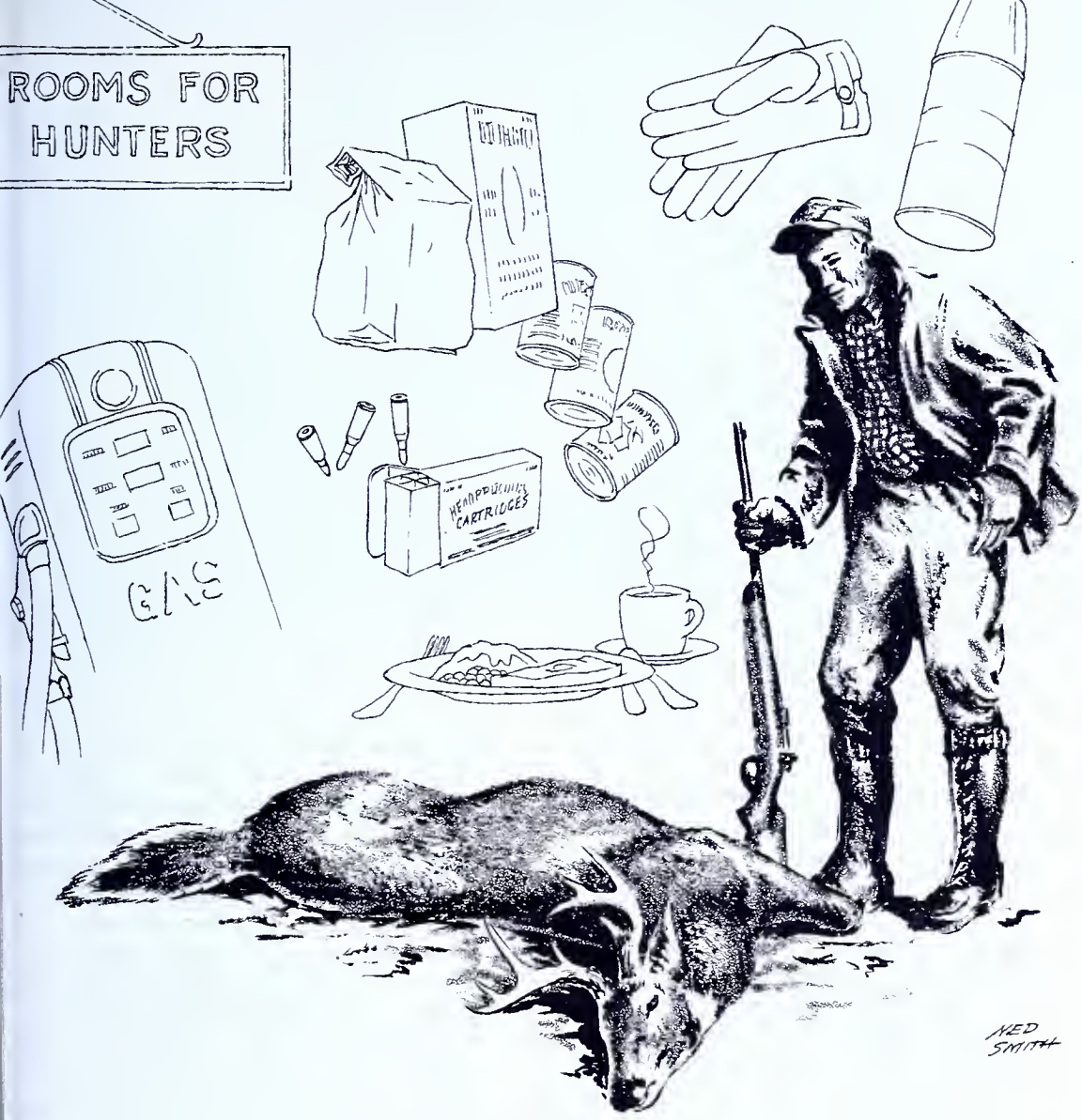
TYPICAL FARM SCENE on the Corey Creek Watershed is this photo of the Elmer Smith farm.

farmers have moved ahead with surprising speed in getting their conservation plans completed and conservation practices installed on the land. Because of the extra help through the application period of 1954, both technical and financial, the farmers on Corey Creek installed over 84,000 feet of diversion terraces. The importance of this amount of diversion terracing is better illustrated by pointing out that this is about 15% of the total application of diversions in all Pennsylvania for the same period. Also during 1954, 4,500 feet of waterways were established as well as many other conservation practices. It is encouraging that the farmers are getting the basic water management practices installed first so that they can then go ahead with other practices such as strip cropping, contouring, liming and fertilizing and good rotations with the assurance that they are not going to lose their lime and fertilizer and good topsoil through excessive erosion.

The Corey Creek Project has already convinced us that a watershed plan and program is one good way for all agencies and groups to contribute toward getting the conservation job done. One of the first objectives was to find out whether local people, county government, state and federal agencies, could really work together on one program for the common good of all. The Corey Creek Watershed Project has also illustrated that watershed groups are an excellent way for soil conservation districts to work effectively with the people in getting the conservation job accomplished. It is not the intention of Congress, the Department of Agriculture, the State Soil Conservation Commission, or anyone else that watersheds shall replace districts. It is rather the thought that watersheds will enable soil conservation districts to do an even better job. Certainly the Corey Creek Watershed Association makes it easier for the Tioga County Soil Conservation District to work with the farmers on this little watershed.

Sometimes the question is asked, "Are programs such as the one on Corey Creek intended to eliminate the need for large flood control reservoirs?" This is not the case, however; on the contrary, it is rather intended that the small watershed program go hand in hand with other flood control and conservation programs. Certainly the success and lasting benefits of any large impounding reservoir will depend to a great extent upon erosion control and water management methods used in the area draining into the reservoir. The flood control surveys carried out on many watersheds in the country by the Soil Conservation Service indicate that approximately 75% of the damage caused by floods is on the small tributaries before the water reaches the main river courses. This would appear to be a logical conclusion since local storms and heavy rains may do much local damage but have little effect on the main rivers.

What has happened on Corey Creek could happen on many watersheds on the Susquehanna River Watershed system. The interest of the farmers of Corey Creek is similar to the interest of farmers on other parts of the Susquehanna River Watershed. This poses an important question: "How could we affect the flow of the Susquehanna River if we did have all the drainage area covered with programs such as Corey Creek enjoys? Would the river get as high as at its peak and would it get as low in drought periods?" We will be able to answer these questions better after sufficient time has elapsed and we are in a position to evaluate the work now being installed over the 15,000 acres that form the Corey Creek Watershed.



The Business Side of Deer Hunting

By Jerome K. Pasto and D. Woods Thomas

IN PREVIOUS articles we reported the findings of our research regarding the issues involved in management of the deer herd, the amount and kind of crop damage by deer, and the dollar value of these damages.

But damage to farm crops is only one side of the story of the "big business" of deer hunting. The other side is the income that local folks derive from the expenditures of hunters. Since there are at least two sides to most every story, we felt that our research would be incomplete unless we studied as many angles as we could.

The situation is something like this: It is true that farmers in deer country suffer crop damage by deer, and therefore loss of income, but it is also true that deer hunting generates income in the area. Considering only the financial side for the moment, it is a question of balancing dollar damage against dollar income. If the deer herd were cut to the point where negligible damage occurred, then the number of hunters might drop, and so would the amount of money they spend. If the herd were allowed to expand unchecked, then the amount of damage would be of greater concern than the income. The problem is to determine where the happy balance lies, not only in a financial way, but recreationwise as well. The solution is not easy. It requires understanding by all the folks involved.

How We Studied the Income Side

Whenever a researcher wants to find out how much a certain thing contributes to an event, he's in for a tough job. In this case our task was to find out how much of the income of local people and businesses in Potter and Monroe Counties was due to deer hunting. Our first thought was to interview a sample of all the folks who did business with deer hunters, and then ask them how much money they received from deer hunters. This plan was quickly given up as impractical, for two big reasons: (1) We didn't know how to find all the folks who did business with hunters—after all, Potter and Monroe County are pretty big places. (2) If we did find them, could they tell us how much money they received from hunters? For example, could the owner of a country store, or the proprietor of a gas station tell us how much of his total business was conducted with deer hunters? Obviously they could only make a wild guess.

Then we settled on a simple equation that any child who buys a popsicle knows: what one man spends becomes another man's income. In other words, if we could find out what deer hunters SPENT in the two counties, then the amount spent would be equal to the gross INCOME local folks derived directly from hunters. Sounded simple enough—now all we had to do was to locate the hunters. This we did by obtaining a list of the names and addresses from the game kill tags which successful 1951 deer hunters sent to the Game Commission. (For our purpose, "successful" hunters were those who got a deer). For Potter and Monroe Counties there were 7,848 usable tags. We mailed questionnaires to a sample of 2,700 of these hunters.

Within a week after we mailed out the forms, we knew we were on a hot subject. The questionnaires began to roll in beyond all expectations. Ordinarily on a mailed questionnaire we can figure about a 25 per cent return. In this case almost 60 per cent came back with data. We had to hire an extra girl to help tabulate the information.

After we worked out a way of getting an accurate figure on the money spent by hunters, another troublesome point popped up. It was this. Did the average successful hunter (the ones we sampled) spend about the same amount of money while hunting as the average hunter who did not get a deer? What do you think?

If there was much difference between the amount successful and unsuccessful hunters spent, then our figures for total income could be off. The biggest factor in the amount spent, we figured, would be the number of days hunted—because of the expenditures for room and board. On the questionnaire we asked each hunter to tell us the number of days he hunted deer in 1948, 1949, and 1950, and whether or not he shot a deer. We ran some statistical tests and discovered that on the average



PGC Photo by Parlaman

DEER HUNTING BRINGS TOGETHER FRIENDS from near and far. In this party is a former Pennsylvanian who got his friends from Ohio, Kentucky and Tennessee together for a hunt during a recent deer season.

a hunter spends about the same number of days in the field whether he gets his deer or whether he doesn't. Having discovered this, we concluded that hunters who got their deer spent about the same amount while hunting as those who got none.

Deer hunting activity brings in more income than that spent by individual hunters. This other income comes from money spent on construction, maintenance, taxes, and operation of hunting camps. We obtained a complete list of hunting camps in both Potter and Monroe Counties, In 1951 there were 881 hunting camps in Potter County, and 54 in Monroe, including those on both privately-owned and state-owned land. We mailed a special questionnaire to the treasurers of over half the camps. If a camp was used 8 days in 1951, but only two days for deer hunting, then we allocated one-fourth of the total expenditures to deer hunting. We figured total camp expenditures on the basis of all camps in the two counties. There were several other procedures we had to work out, but let's get on with this report.

The Hunters—Who, How Many, From Where?

According to our best estimates, during ten days of buck hunting, and two days of anterless hunting, some 30,000 individuals hunted deer in Potter County in 1951. In Monroe County we estimated 12,000 hunters. See Table 1.

Table 1. Estimated Number of Deer Hunters Who Hunted in Potter and Monroe Counties, Pennsylvania, 1951.

Class of hunters	Potter County Estimated number of hunters	Monroe County Estimated number of hunters
Buck hunters from Pennsylvania	13,500	7,400
Buck hunters from out-of-state	2,000	700
Doe hunters from Pennsylvania	12,200	3,900
Doe hunters from out-of-state	2,300	*
All hunters	30,000	12,000

* So few that they were ignored.

Most of the hunters came from Pennsylvania, but in Potter County about 4,300 hunters were from out-of-state. In order to make our figures more meaningful, we divided the hunters into "buckers" and "doe-ers," and also into hunters from Pennsylvania and hunters from out-of-state.

Buck hunters are those who hunted only during the antlered deer season, doe hunters are those who hunted during the anterless season. Since the antlerless season followed the buck season, about three-fourths of the doe hunters also hunted during the buck season. Since they didn't get their buck, they apparently went after their doe. Someone described the doe hunters as "frustrated buck hunters."

The Total Amount of Money Spent

In 1951 the total money spent in Potter County as a result of deer hunting activity came to over a million dollars ($1,057,568). See Table 2. Practically every deer hunter spent some money while hunting in the county. These expenditures averaged about $36 per hunter for the hunting trip. In Monroe County deer hunters spent $372,576. About 13 per cent of the Monroe County hunters spent no money while hunting in the county, but for the 87 per cent who did, the average amount came to about $36 per man.

In the two counties, about 7,900 deer were legally shot during the 1951 season. This means that for every deer killed, the hunters deposited about $181 in these counties. Put in another way, hunters left behind $181 in cash for every deer they took with them*.

* It should not be assumed that this $181 represents the total cost of "getting your deer." To it would have to be added the cash expenses outside the county for supplies and travel, a charge for wear and tear on the automobile, hunting equipment, etc. The total money cost per deer might well be $350.

All of the figures on the financial side of deer hunting need proper interpretation of what they mean to the hunters, and to the folks who live in the deer areas. We'll try to do that as we report the details below. And don't forget the figures on dollar damage to farm crops. Let's keep sight of the whole picture.

Expenses for Transportation

Included here was the money spent for gasoline, motor oil, lubrication, anti-freeze, tires, auto repairs, bus fares, and the like which deer hunters purchased IN the two counties we studied.

About 81 per cent of the deer hunters spent some money in the county for transportation. Those who didn't were local residents, rode with someone else, or purchased round-trip tickets outside the county. In Potter County the total amount spent for transportation came to $182,329, or about $7.54 per hunter who had this kind of expense. See Table 3. In Monroe County the hunters spent $51,810 or $6.56 per hunter. The out-of-state hunters spent only about a dollar more for transportation than did in-staters. The nature of these transportation items means that garages, service stations and similar establishments in the two counties had their gross receipts increased by about $234,000 because of the money deer hunters spent.

Expenses for Hunting Supplies

Included under this item is money spent for ammunition, rifles, equipment repairs, knives, clothing and the like. In Potter County, about 43 per cent of the 30,000 deer hunters spent $151,890 for hunting supplies, and in Monroe County about 53 per cent of the 12,000 hunters spent $149,922 for these items. The average amount spent per hunter in these groups was $10.45 for Potter County hunters and $23.52 for Monroe County hunters. In both counties the

Table 2. Summary of Deer Hunting Expenditures in Potter and Monroe Counties, Pennsylvania, 1951.

	Potter County		Monroe County	
	Amount	Per cent of total	Amount	Per cent of total
Personal expenses of deer hunters	$1,014,244	96	$368,522	99
Hunting camp expenses allocated to deer hunting	43,324	4	4,054	1
Totals	$1,057,568	100	$372,576	100

out-of-state hunters were somewhat heavier spenders on supplies than were in-staters. Notice too that Monroe County hunters spent about double the amount of Potter County hunters for these items. We're not certain as to why this was so. It may be that because of the nearness of Monroe County to populous cities a different kind of spender is attracted to it compared with Potter County.

Table 3. Deer Hunter Expenditures in Potter and Monroe Counties, Pennsylvania, 1951.

Kind of expense	Potter County	Monroe County
Transportation	$ 182,329	$ 51,810
Hunting supplies	151,890	149,922
Room and board	482,610	101,620
Beverages	126,270	45,079
Miscellaneous	71,145	20,091
Total	$1,014,244	$368,522

These figures indicate that hardware, sporting goods, clothing stores, and similar places in these two counties received a large share of the money that hunters spent while hunting. In fact, the combined totals for the two counties came to almost $302,000.

Expenses for Food, Lodging, Beverages

Under this heading we included money the hunters spent for room and board, beer, liquor, soft drinks, and other refreshments. About 82 per cent of the Potter County hunters and 62 per cent of the Monroe County hunters spent some money in the counties for these items. As would be expected, practically all of the out-of-staters spent money for food, lodging, and beverages. The hunters who listed no expenses under this category were local residents who lived at home. We didn't think it proper to include their expenses for room and board since these expenses would have been incurred regardless of whether or not they hunted deer. If a local resident ate a meal away from home while deer hunting, then this cost was included as an expense.

The total money spent in Potter County in 1951 for this group of expenses was $608,880. Of this total, 80 per cent went for room and board. These items cost the average hunter about $25. Out-of-state hunters spent about $8 more than did state resident hunters, or $32 compared to $24 for in-staters.

Monroe County hunters spent a total of $146,699 for room, board, and beverages, with about 70 per cent going for room and board, and the rest for beverages and refreshments. For the 62 out of 100 hunters who had these expenses, the average was about $20 per man.

Viewed from the income side of the ledger, Potter and Monroe County residents and persons operating businesses who provided room and board for deer hunters received about $584,000 in gross income from this source.



PGC Photo by Parlaman

HUNTERS' BREAKFAST was profitable business for Oil City Junior Chamber of Commerce last year. Over 200 deer hunters were served between midnight and 8:00 a. m. on opening day of the season.

Room and board were provided by hotels, motels, tourist homes, farm homes, and so forth.

The Farmer's Share

In Potter County about 28 per cent of the farmers provided deer hunters with room and board, for which they received $44,513. Only 9 per cent of Monroe County farmers boarded deer hunters for a much smaller $1,611. This big difference between the two counties in the amount of money farmers received for boarding deer hunters reflects the fact that Potter County has more hunters and fewer commercial places for taking care of them than has Monroe County.

Here is something more important to think about. Of all the money that deer hunters spent in the two counties, farmers received only 3 per cent of the total, and this was for providing room and board. Yet farmers had to stand 100 per cent of the loss because of deer damage to crops. In a general way the difference between these percentages represents the extent of the inequality in the money costs farmers had to bear and the returns they received because of deer.

Expenses for Miscellaneous Items

Almost 40 per cent of the Potter County deer hunters had miscellaneous expenses for such items as sleeping equipment, tents, lanterns, thermos bottles, cameras, film, flashlights, souvenirs, entertainment, and the like. These hunters spent $71,145, or about $6.00 per hunter for these items.

In Monroe County about 21 per cent of the deer hunters spent $20,091 for miscellaneous items, averaging about $8 per hunter who incurred miscellaneous expenses.

This means that the shops in these two counties which purveyed these miscellaneous items had their gross income swelled by about $91,000.

Days Spent Deer Hunting

In 1951 there was a buck season with 10 days of hunting, followed by a 2-day doe season. Pennsylvania residents who only hunted buck in Potter County averaged 4 days in the

field. Out-of-staters who hunted buck, doe, or both averaged 5.6 days in the county. For all hunters, in and out-of-staters, buckers and doe-ers, the average days in the field came to 4.5.

In Monroe County both the resident and non-resident buck hunters averaged the same number of days in the field—3.4. Hunters who went after buck, doe, or both, averaged 6 days searching for those elusive animals. For all hunters the average was about 4.2 days, or only slightly less than the number of days hunted by Potter County sharp-shooters.

Expenses Per Day

In Potter County the cash spent in the county per hunting day for all hunters averaged about $8.50 per hunter. Buck hunters from out-of-state averaged higher—$12.00 per day. It was obvious from our data that the more days a man hunted, the less were his expenses per day. This is because there are certain costs that remain the same, regardless of whether a man hunts one day or six days. An example of some of these more or less "fixed" items are cash costs for equipment, transportation, ammunition, and souvenirs purchased in the county. We would say that costs for room, board, and beverages are "variable" since the more days a man hunts, the more money he spends for these items.

Pennsylvanians who hunted buck in Monroe County averaged $10.22 cash expenses per day. Non-resident buck hunters spent $11.68 per day, and they were in the field the same number of days as resident buckers—3.4 days. Hunters who went after both buck and doe averaged 6 days in the field, and their cash expenses came to only $5.70 per day.

Hunting Camp Expenses

Deer hunting activity in the two counties brings in more money than that spent by individual hunters. To get the total picture we included money spent on hunting camps used for deer hunting. Contained here are expenses for construction, maintenance, operation, and taxes. We did not include any camp purchases made outside the county because we were interested only in the income effect deer hunting had within the bounds of the two counties studied.

All but two of the 881 camps in Potter County and all of the 54 camps in Monroe County had some kind of camp expenses in 1951. Potter County camps spent $170,822 within the county. See Table 4. Of this amount, we figured that about $43,300 was due to deer hunting activity. (We arrived at this on the basis of the number of days the camp was used for deer hunting in relation to the total days the camp was used for all purposes). Camps on private land averaged $216 expenses per camp. Those on state land averaged $126. Most of this difference was due to the

Table 4. Hunting Camp Expenditures in Potter and Monroe Counties, Pennsylvania, 1951.

Type of camp	Number of camps		Camp expenses in Potter County		Camp expenses in Monroe County	
	Potter	Monroe	Total	Allocated to deer hunting	Total	Allocated to deer hunting
On private land ...	691	41	$147,273	$38,205	$20,144	$3,326
On state land	190	13	23,549	5,119	3,961	728
Total	881	54	$170,822	$43,324	$24,105	$4,054

fact that camps on private land are more elaborate than those on state land and therefore their construction and maintenance costs run higher.

In Monroe County, hunting camps spent a total of about $24,100 of which about $4,000 was allocated to deer hunting. Camps on private land average $491 per camp, and $305 for those on land leased from the state. Note that camp expenses in Monroe County are more than double those in Potter County. Here it can be said that Monroe County is more of a "resort area" than is Potter County, and the elaborateness of the camps reflects this fact.

Table 5 shows the major kinds of expenditures on hunting camps. Construction and maintenance for such items as lumber, cement, hardware, glass, paint, plumbing, and hired labor amounted to over half the total expenses. Camp furnishings were a relatively small item. Miscellaneous expenses for leases, rent, taxes, electricity, fuel, insurance, and so forth were another big item in the yearly operation of the camps. All of this means, of course, that the gross business of firms in the two counties which handle these items was increased substantially by the presence of hunting camps. In the case of taxes, the local government was the recipient. The part of the total camp expenses in the two counties which we call "deer money" came to over $47,000.

Table 5—Hunting Camps Expenses by Type of Expenditure, Potter and Monroe Counties, Pennsylvania, 1951.

	Potter County	Monroe County
Construction and maintenance	$ 93,476	$ 8,482
Furnishings	20,726	2,275
Miscellaneous	56,620	13,348
Total all expenses	$170,822	$ 24,105
Part of total allocated to deer hunting	$ 43,324	$ 4,054

Next

In this and previous issues of the GAME NEWS we have reported the results of our research findings in regard to the issues involved in deer management, the physical and dollar damage to crops, and the income from hunters. In the next (also the last) article of this series, we'll try to pull all of this together in terms of a "cost and benefit" analysis of the deer herd in these two counties.

Deer Skin Is Valuable Product of Chase

A valuable product of the sucessful deer hunt is the slain animal's hide. To prevent spoilage the skin should be heavily salted (coarse salt is best) and rolled up flesh side in. It should be kept in a cold place until processed to make a garment, rug or other useful article.

If not wanted by the deer slayer the hide may be sold to a fur buyer, a hide dealer, or a tanner within 90 days after the close of the hunting season.

The Game Commission distributes a free conservation pamphlet titled WHEN YOU GET YOUR DEER. Through drawings and descriptions in it readers may learn how to dress out a deer properly.

Prize recipes for tasty roasts, steaks and barbecues of venison are also given in the publication.

A Sportsman's Guide to . . .

Fulton County

Forty-Sixth In A Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

Land Area

Fulton County contains 278,528 acres of which 162,534 acres are forested. Publicly-owned land totals 44,935 acres, including 14,793 acres in State Game Lands.

Topography

Lying on the eastern slope of the Alleghenies, much of the surface is mountainous. Though the area of farm lands is limited, the soil is fertile and skillful farming has produced good results. Several of the larger streams flow southward into Maryland and drain into the Potomac River. Those in the western and northern parts of the county, however, are tributaries of the Juniata River.

Transportation

Fulton County is the only county in the Commonwealth not crossed by any railroad, but excellent transportation facilities are provided by the Pennsylvania Turnpike, the Lincoln Highway (U. S. 30), and U. S. Route 522. The county has a total of 241 miles of improved State highways.

District Game Protector

District Game Protector Carl E. Jarrett, McConnellsburg (Phone: 158R14) has the entire county under his jurisdiction.

Fish Warden

Fish Warden Bryce Carnell, R. D. 1, St. Thomas, is assigned to this county by the Pennsylvania Fish Commission.

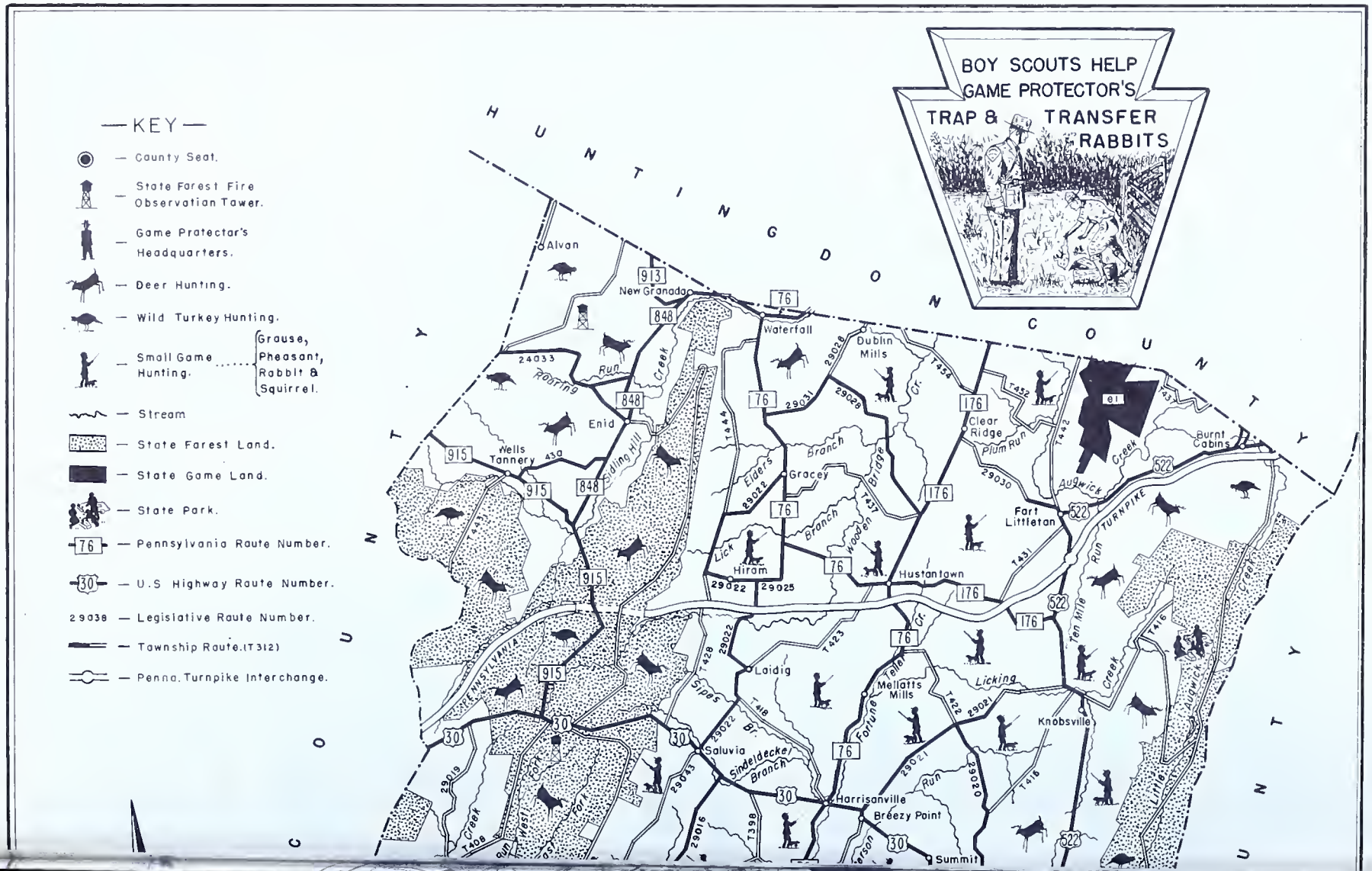
District Forester

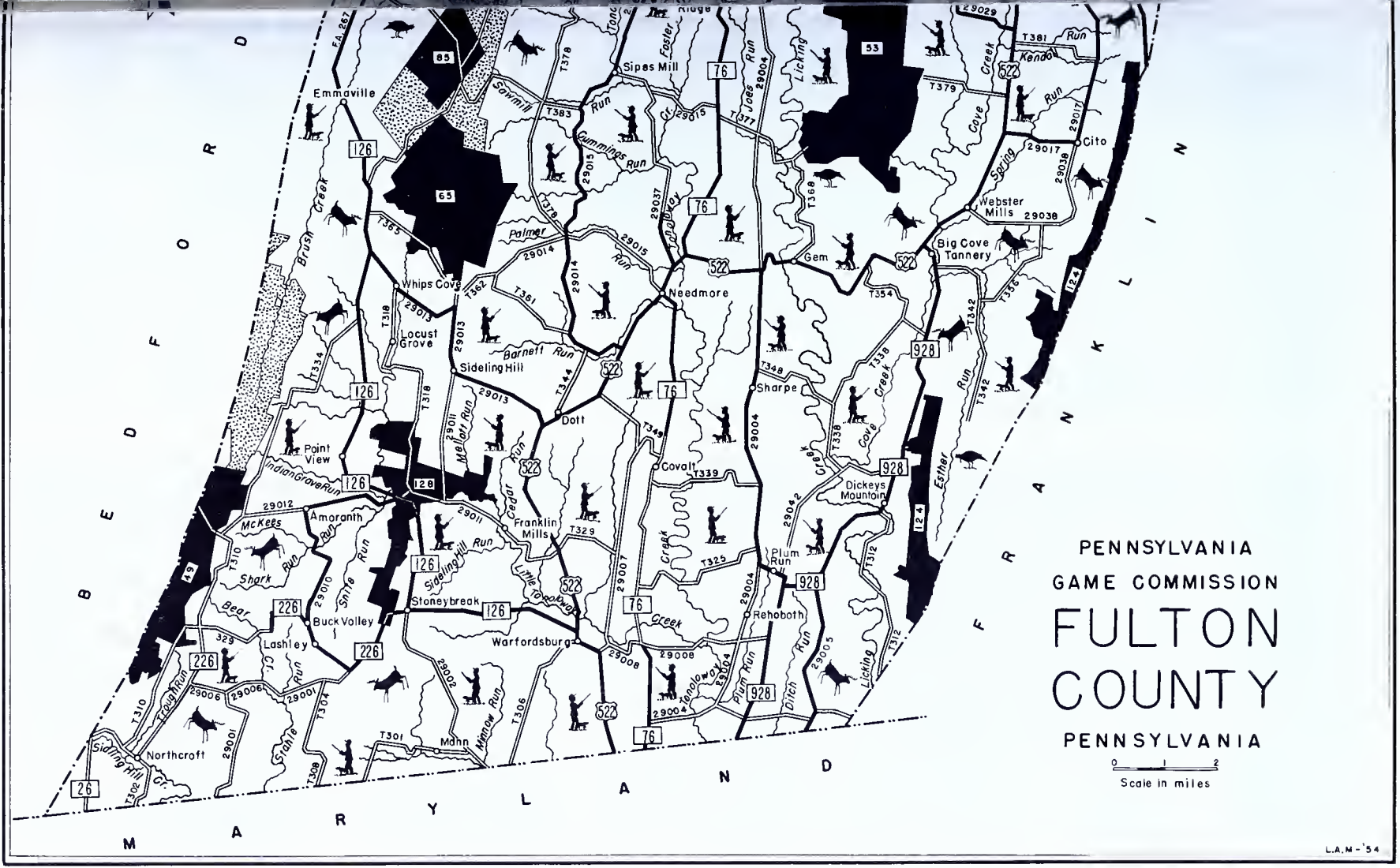
District Forester Ralph L. Schmidt, McConnellsburg, is assigned to the Buchanan Forest District by the Pennsylvania Department of Forests and Waters.

History

One of the younger and smaller counties of the State, Fulton county, organized in 1850, had a rich historical background as part of Bedford county from which it was taken. The county is named after Robert Fulton. The first recorded land title is dated 1749 and was granted to David Scott. The Great Cove, west of Kittatinny, and Licking Creek were the principal seats of early settlement. Harassed by savage Indian raiders, the existence of these pioneers was a precarious one. The Great Cove Massacre on November 1, 1755 resulted in virtual abandonment of the region. Indian attacks in 1757 led to the erection of a private fort or stockade for protection near present McConnellsburg. One of the most important frontier forts was located in the northern part of the county, Fort Littleton, erected in 1755 near the site of what is now an interchange on the Pennsylvania Turnpike.

Following the American Revolution, expansion of settlement in this region became more rapid. Some of it came from the older counties to the East and some from Maryland. The Chambersburg and Pittsburgh Turnpike built after the War of 1812


BOY SCOUTS HELP GAME PROTECTOR'S TRAP & TRANSFER RABBITS
— KEY —
— County Seat.
— State Forest Fire Observation Tower.
— Game Protector's Headquarters.
— Deer Hunting.
— Wild Turkey Hunting.
— Small Game Hunting. ..... Grouse, Pheasant, Rabbit & Squirrel.
— Stream
— State Forest Land.
— State Game Land.
— State Park.
— Pennsylvania Route Number.
— U.S Highway Route Number.
29038 — Legislative Route Number.
— Township Route.(T312)
— Penna. Turnpike Interchange.
HUNTINGDON COUNTY
Alvan
New Granada
Waterfall
Dublin Mills
Enid
Wells Tannery
Gracey
Hiram
Hustontown
Clear Ridge
Fort Littleton
Burnt Cabins
Laidig
Saluvia
Mellotts Mills
Knobsville
Harrisonville
Breezy Point
Summit
PENNSYLVANIA
Roaring Run
Sulding Hill Creek
Elders Branch
Bridge Cr.
Plum Run
Augwick Creek
Lick Branch
Wooden Bridge Cr.
Sipes Cr.
Teller Cr.
Fortune Branch
Sinsledecker Branch
Licking Creek
Ten Mile Run
Little Augwick Creek
Fort West Run
Fort Cr.
Tuscarora Run
Tuscarora Creek
Jerson Run
PENNSYLVANIA TURNPIKE
913
848
76
915
30
176
522
81
T443
T444
T452
T454
T442
T437
T431
T428
T423
T422
T418
T416
T408
T398
29022
29025
29028
29031
29030
29021
29020
29019
29016
29043
24033


PENNSYLVANIA
GAME COMMISSION
FULTON
COUNTY
PENNSYLVANIA
Scale in miles
0 1 2
L.A.M.-'54
BEDFORD
FRANKLIN
MARYLAND
Emmaville
Sipes Mill
Whips Cove
Locust Grove
Sideling Hill
Needmore
Gem
Webster Mills
Big Cove Tannery
Cito
Point View
Dott
Sharpe
Covalt
Dickeys Mountain
Amaranth
Franklin Mills
Plum Run
Stoneybreak
Buck Valley
Lashley
Warfordsburg
Rehoboth
Northcroft
Mann
Sawmill Run
Cummings Run
Palmer Run
Barnett Run
Meiser Run
Cedar Run
Sideling Hill Run
Little Tonoloway
Tonoloway
Licking Creek
Cove Creek
Spring Cove
Esther Run
Brush Creek
Shark Run
Bear Run
Shade Run
Sweet Run
Dry Run
Ditch Run
Foster Joes Ridge
Kendo Run
Indian Grave Run
McKees Run
Sidling Hill Cr.
Meadow Run
Licking Creek
Joes Run
Spring Run
Esther Run
Cove Creek
Dickeys Mountain
Plum Run
Ditch Run
Licking Creek
Tonoloway
Creek
Run
Cr.
Sawmill
Cummings
Palmer
Barnett
Meiser
Cedar
Sideling Hill
Little Tonoloway
Tonoloway
Foster Joes Ridge
Kendo
Indian Grave
McKees
Sidling Hill Cr.
Meadow
Licking Creek
Joes
Spring
Esther
Cove
Dickeys Mountain
Plum
Ditch
Licking Creek
Tonoloway
Creek
Run
Cr.
Brush Creek
Shark
Bear
Shade
Sweet
Dry
Ditch

passed through the heart of the county. Long lines of Conestoga wagons filled with settlers and their belongings bound for the West could be seen filing slowly over the hills of Fulton county in the decades from 1820 to 1840. The inns and taverns at McConnellsburg were favorite stopping places for stage coach travelers.

McConnellsburg, the county seat and only borough in the county, was laid out and settled by Daniel McConnell in 1786. The first school was organized in Ayr Township, near McConnellsburg, in the Big Cover in 1777. A raid by Confederate forces under General Imboden in July, 1863, reached McConnellsburg and skirmishes were fought in the streets.

Agriculture

The leading industry of the county has always been agriculture. Fulton county buckwheat is famous throughout the country and provides the basis for many grist mills. There are over 1,400 farms in the county with 172,797 acres under cultivation.

Industry

Bituminous coal is mined in the northwestern corn of Fulton county in the Broad Top field and limestone is crushed for use in road building. Tanning was once a leading industry and several towns still retain the names of early tanneries.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked, location and length or area of stocked waters) include:

TROUT: Little Aughwick Creek, McConnellsburg, Rt. 30, 7 Mi.; South Branch, Little Aughwick Creek, McConnellsburg, 8 mi.; Brush Creek and Little Brush Creek, Crystal Springs, Rt. 126, 6 mi.; Cove Creek, McConnellsburg, 3 mi.; Nine Mile Creek, Burnt Cabins, Rt. 522, 1 mi.; Oregon Creek, Wells Tannery, Rt. 915, 3 mi.; Roaring Run, Websters Mills, Rt. 522, 5 mi.; Spring Run, Websters Mills, 4 mi.; Little Tonoloway Creek, Warfordsburg, Rt. 522, 8 mi.; Wooden Bridge Creek, Hustontown, Rt. 176, 5 mi.

BLACK BASS: Cowans Gap Dam, Burnt Cabins, Rt. 522, 42 Acres; Licking Creek, McConnellsburg, 5 miles.

Recreation—State Parks

Cowans Gap State Park, comprising 1,346 acres, can be reached by driving over forest roads from Richmond Furnace on State Highway Route No. 75, or from Burnt Cabins (U. S. Highway 522), or from the top of Cove Mountain on the Lincoln Highway. Camping, picnic facilities, and over-night cabins are available for public use. A large dam provides excellent bathing and boating.

Recreation—Hunting

Fulton County provides good deer hunting and offers average opportunity on other native game species. Six tracts of State Game Lands, open to public hunting, are located as follows: Number 49 (in part), 1550 acres, near Amaranth; Number 53, 4,552 acres, near McConnellsburg; Number 65, 3,783 acres, near Emmaville; Number 81 (in part), 1,106 acres near Fort Littleton; Number 124 (in part), 2,233 acres near Dickeys Mountain; and Number 128, totalling 1,569 acres near Lashley.



Buck Rubs It In

LUZERNE COUNTY — Deputy Joseph Smutko, on patrol in Luzerne County during October, reports while he was checking duck hunters a buck deer came up and started to rub his antlers on the car.—District Game Protector John C. Behel, Wilke-Barre.

Half Shot

COLUMBIA COUNTY—In a routine check of hunters during the afternoon of the opening day, I contacted one with an unusual story. It seems he drove about 60 miles to hunt in this district, in rain, snow and other assorted mean weather to find upon opening his gun case, that it contained only the barrels. The stock and action he had left at home, he hoped. A farmer friend loaned him an old beat up single and he bagged his two birds and a rabbit.—District Game Protector Mark L. Hagenbuch, Bloomsburg.



Cute Kitten Turns Wild Cat

CLINTON COUNTY—What happens to little kittens? Usually they grow up to be friendly pets, but kittens abandoned in the woods are far from friendly. Recently in one of my predator traps I found a large wild house cat, evidently wild for quite awhile. This cat measured 31 inches from nose to tip of tail, and tipped the scales at 17½ pounds.—District Game Protector Charles F. Keiper, Renovo.

They Took the Highway

LAWRENCE COUNTY—One night in October I received a call from Darrell Wigton, of New Castle, regarding the disposition of two mink. Wigton, en route from Darlington at the height of high water during a recent "flood," hit a pair of mink with his car, killing both. No doubt the pair, rather than buck the swollen streams, had decided to take to the highways.—District Game Protector Calvin A. Hooper.

Nutty Woodies

VENANGO COUNTY — During October I checked and cleaned two woodducks. They had been feeding on acorns which is not unusual for the species. But these two seemed to have been overly well supplied. The acorns were in the neck, crop and gizzard. One bird had twelve and the other fifteen large acorns, besides several more partly digested.—District Game Protector Clyde W. Decker, Franklin.



Strangers In Paradise

BEAVER—I have often had reports of strange animals in the county, but this month we had killed along the highway, two of the visitors. One, a badger, killed on Route 351 north of New Galilee; the other, a porcupine, killed on highway near Raccoon State Park.—District Game Protector J. B. McGregor, Beaver.

Tomorrow They Hunt

ERIE COUNTY—On October 30th, the first day of small game season, I had my first experience of investigating a fatal hunting accident. Here are the sad facts. A father who could not say "no," falsified his eleven-year-old son's age in order to obtain a hunting license for him. It is easy to understand, of course, that the lad was anxious to hunt with his brothers and father.

The eleven-year-old, his two brothers and father were hunting in an open pasture field. A rabbit ran out and dodged in front of the hunters. The boy, in that tense and exciting moment—over-anxious to prove his ability—swung the big 12 gauge gun His brother, forty feet distant, cried "Don't shoot," and turned his back. The eleven-year-old fired and his brother fell to the ground. The full load of shot had struck him in the back. Death was almost instantaneous.

Words cannot express the impact of this event on that family. Let others take note: 12 years of age is plenty early enough to start a lad hunting in the field and then only under very close parental supervision and training. The price of disobeying the rules can be worth more than all the material things in this world.—District Game Protector Elmer D. Simpson, Union City.

Flight Into Fear

SUSQUEHANNA COUNTY—While driving through State Game Lands No. 140 one night, Mr. Frank Barnum of Little Meadows saw a large bird flying down the middle of the road. Speeding up, Mr. Barnum was able to make out a great horned owl with a hen pheasant in its talons. When the automobile came too close the owl dropped the pheasant and flew away. Much to Mr. Barnum's surprise, the pheasant scurried off the road into safer cover, apparently none the worse for an experience from which few animals escape.—District Game Protector Donald G. Day, Susquehanna.



Wrong-Way Waterfowl

BUTLER COUNTY—During October word was received from Arthur Mann, of Charing Cross, Ontario, Canada, that he killed a mallard duck on the first day of their duck season. The duck was wearing a Pennsylvania Game Commission band—No. 24214. After checking the records, we found this mallard was one I had released under the Commission's new duck program last June 4th at the age of 5 weeks. The release was made on Cypress Lake, Worth Township, Butler County—District Game Protector Woodrow E. Portzline, Slippery Rock.

Conservation At Its Best

CENTRE COUNTY—In the spring of 1952 some 4,000 acres were completely burned in the Black Moshannon area of which some 2,000 were Game Lands. Since that time game has been scarce in the burnt area. A good sprout growth this spring has resulted in game starting to inhabit the area again. Since the fire some 14,000 conifers and food producing shrubs have been planted in the area. The tree plantings are the results of good cooperation. The Windburne Water Company bought and paid for the trees of which the game lands form part of the watershed. The Philipsburg Rod and Gun Club, along with the Philipsburg High School, furnished the labor needed to plant the trees. Result—an area that in the future will furnish good hunting to many hunters and a watershed area that will increase its water output in the years to come. Conservation at its best!—District Game Protector Robert H. Sphar, Philipsburg.

Close Call

ALLEGHENY COUNTY—While patrolling on the first day of small game season, I was leaving Clinton



about noon on Route 30 to Pittsburgh. The traffic was extra heavy because of the horse races at Waterford that day. The traffic looked like Marienville on the first day of deer season. As I glanced to the right of me, I noticed an object about one quarter of a mile away, running across a large spoil bank, and heading toward Route 30. It was not long until I realized that it was a large deer in full gallop and really moving along. I hurried up the road with intentions of warning the motorists of the approaching deer, because I could not see how the deer would get through all the traffic that was moving at about 50 miles per hour. The deer, a large doe, reached the road about the time I got there. I thought to myself, "This is it," and about that time the deer leaped right into the middle of the road between a car and a bakery truck. As she hit the road, she slid on the pavement and the truck just missed her by inches. The expression on the truck driver's face was really something. He could not have seen the deer because of the way he was coming. Close call for Mrs. Deer.—District Game Protector F. H. Servey, Clinton.



How's That Again?

SCHUYLKILL COUNTY — Prize of the opening day was the hunter who shot a second ringneck pheasant and walked over to pick up his bird. His first bird jumped from his hunting coat pocket and ran away. Doing a quick recovery the hunter shot the first bird a second time and thus was the first bird first or was the second one first. The whole episode was witnessed by Deputy Game Proptector Les Wenrich, but the hunter is unidentified.—District Game Protector Ralph L. Shank, Pine Grove.

Mink Trapping Made Easy

DELAWARE COUNTY — One morning in April a few years ago, I was fishing a section of Darby Creek for chubs when I noted a disturbance in the water off to my right. What I at first took to be the head of a snapping turtle finally materialized into the head of a mink. It climbed out of the water and proceeded to run along an old log about ten feet in front of me. On seeing me fishing, the mink stopped and emitted sharp squeaks, then ran back and forth on the log, rubbing its chin along the wood as though it was scratching itself. Curious as to the animal's reactions, I tossed it a small chub which it promptly grabbed, disappearing with it back of the log.

In December of that same year while operating a "fox line" through the area, I happened to stop the car along the road near where I had the incident with the mink. Arriving at the old log, I noticed several small sunfish laying on top of it. They appeared to be wet, but I couldn't determine whether they had been recently removed from the water or had received their fresh appearance from melted frost. Looking the log over carefully, I discovered two small holes in the brush which had washed against it and my thoughts instantly reverted to the mink of the previous spring. Returning to the car I brought back two fox traps which were the only type of traps available. I set one trap in one of the holes and was in the act of placing the next in the other entrance. Suddenly the mink popped out into the first trap while I still held onto the trap chains of both traps! It was one of the easiest experiences I ever had in taking this rather elusive furbearer. Although I had kept a pair of traps guarding both of these den entrances throughout that entire season, no more mink were ever taken there.—Deputy Game Protector Gene Hill, Upper Darby.

Start Them Young

YORK COUNTY—On August 15, while patrolling my district, I saw a pheasant hen with some very small young. Since I attempt to count all clutches, I parked and left my car for a better view. The chicks disappeared so I waited about ten minutes until the hen reappeared and then again attempted to observe the chicks. The chicks were very hard to locate, but finally I discovered that they were sneaking along the mouse trails. One chick attempted to crawl down a mouse hole and I was able to catch it. These chicks were one or two days old and already their ability to hide and sneak about, away from danger, was as good as an older pheasant.—District Game Protector Earl E. Geesaman, York.

Steadfast Squirrel to the End

LYCOMING COUNTY—During the last week of October while traveling on Route 880 near Rauchtown in Clinton County, I observed a dead gray squirrel on the road. Shortly a crow flew from a nearby thicket and began to peck at the dead squirrel. Suddenly another gray squirrel, this one very much alive, appeared on the scene and jumped all over the crow and sent him cawing and squawking back to the thicket. It appeared to me that a gray squirrel was probably trying to protect his mate even after death.—District Game Protector Michael Evancho, Jersey Shore.

Pheasant Pulls Jorgenson

CENTRE COUNTY—John Domblisky, a pheasant propagator from Philipsburg, called and reported the following to me: Mr. Domblisky reports that one of his pheasant hens that is about four years old has recently switched from the drab hen to the brilliant coloring of the male. Mr. Domblisky reports the hen laid eggs the past four years and was the drab coloring of the hen. Now from all outward appearances, the bird is a male with the bright coloring and actions of a male.—District Game Protector Robert H. Spahr, Philipsburg.

Man's Best Friend or Worst Enemy

NORTHAMPTON COUNTY—On October 24, 1954, a large group of men gathered together to eliminate a very serious condition caused only by the thoughtlessness of man, in the vicinity of Steel City and Freemansburg in Northampton County. The city of Bethlehem has a large dump near there and it looks like a good spot to dump all dogs their masters no longer want. These dogs have accumulated there and have become very wild, doing considerable damage and creating a safety problem. The condition was so bad it was a menace to the safety of the children living in that vicinity. Sometime during October, a stranger came into that area to train his dogs. He apparently invaded the stamping grounds of the wild dog pack. A pack of 14 dogs attacked his hounds and crippled both of them. In all probability they will have to be destroyed. The man himself was driven up a tree and could not get down until he was able to get help from someone who had a gun.—District Game Protector Harold W. Wiggins, Nazareth.

Spring In Fall

DAUPHIN COUNTY—I have seen a lot of small rabbits during the hunting season, but this season tops all. Luther Moretz of Millersburg killed a female rabbit on November 1, that was carrying three unborn young.—District Game Protector Harold F. Harter, Millersburg.



The Federal Aid Program Pays Dividends in Pennsylvania

By William E. Cramer



PGC Photo by Parlaman

FEDERAL Aid in Wildlife Restoraation was inaugurated as a program on July 1, 1938. Under this legislation, known as the Pittman-Robertson Act, Wildlife Research and Restoration Projects are approved in various states, and funds provided to finance seventy-five percent of the costs. (Expenditures for wildlife protection, general departmental administration, propagation and stocking of game are not allowable under terms of the Act.) Programs are financed from eleven percent Federal excise taxes imposed on the sale of firearms and ammunition. Each state receives a proportionate amount of this fund each year, dependent upon the number of hunting licenses sold and the proportionate state area in relation to that of the entire United States.

The Annual Report on the accomplishments in wildlife restoration throughout Pennsylvania for the Federal Fiscal Year July 1, 1953 to June 30, 1954, contains many items that will be of great interest to the sportsmen who want to know what is being done to improve wildlife habitat on 905,743 acres of State Game Lands, 1,040,144 acres of Cooperative Farm-Game Projects, 475,000 acres of the Allegheny National Forest, 11,000 acres along the Loyalhanna and Conemaugh Flood Control Reservoirs and on approximately 29,240 acres of rabbit farms or other leased areas, using per diem labor, seedlings, seed, lime, fertilizer and other services and materials supplied through this cooperative Federal and State Program.

Some of the activities on Game Commission owned, Federal or leased lands, with the exception of Cooperative Farm Game Projects, were as follows:

Food Strips Cleared—496.5 acres.

Food Strips Planted—2692.45 acres.

Food Strips Seeded with Sericea Lespedeza—7.25 acres.

Food Strips Seeded to Clovers—1444.5 acres.

Food Strips Purchased—110 acres.

In addition, on approximately 4000 acres of other areas fields were mowed, limed and fertilized to improve nesting and food and cover sites for birds and animals.

Besides the Game Commission's food and cover practices, many acres of State Game Lands are planted by farmers on a share-crop basis, the Commission receiving approximately 25% to 30% of the standing or harvested crops. These are reported as follows:

Fields planted by share-crop farmers—1064 acres
Clovers seeded on—485.5 acres
Grain left standing for wildlife on—71.5 acres
Commission's share of harvested grains—5764 bushels

Tree, shrub and vine seedlings and transplants were planted adjacent to food strips and on suitable areas in the following numbers:

Evergreens	139,975
Other Seedlings ..	582,577

On many areas of State Game Lands and other lands there are apple, oak, and other trees that are shaded out and have little chance to grow and produce fruit on which the game may feed because of the competitive growth all around them, and the consequent lack of sunlight. Sometimes it is necessary to prune trees in the woods to produce a crop and sometimes it is necessary to both release and prune the trees. This type of work was done as follows:
Fruit trees released or pruned—32,860
Shrubs released or pruned..— 6,176

At other places it is desirable to cut borders along the woodland in order to produce naturally a copious growth of shrubs, briars, etc., as food and cover for practically all kinds of game. Raspberries, blackberries, honeysuckle, dogwood, sumac, witch-hazel, bittersweet, pokeberry, chokecherry, Virginia creeper, grapevines, and viburnums of various kinds, are some of the things that grow splendidly in border cuttings. Woodland borders with an average width of 58.5 feet were cut on 596,514 linear feet, for a total area of 1070.35 acres. Other woods thinnings and cuttings, were made on 104.87 acres.

The development of areas for waterfowl management is given a prominent place in the Pittman-Robertson program. Thirty-one sites totaling 331.4 acres of water were surveyed for marsh ponds, dams or potholes. Plans were prepared for 23 of these sites. Seven sites were cleared for construction and stream channels were cleared totaling 23 acres. Drainage ditches 6 feet wide and 3600 feet long were made. One dam was completed; one dam was 90% completed and another dam was 30% completed. Five potholes, 30′ x 40′ x 5 feet deep, covering 6000 square feet, were constructed on State Game Lands. Four hundred and fifty pounds of duck millet, 28 bushels of duck meat and 2 bushels of watercress were planted. Marsh improvements were made on 15 acres. Marsh food plantings on State Game Lands were fertilized on 120 acres.

Much work was done and a great amount of money was spent for the development for food and cover on the Farm-Game Projects under lease by the Game Commission. Seedlings were distributed to Farm-Game Cooperators to plant as follows:

Coniferous	794,575
Multiflora Rose ..	312,050
Other Species	91,124
Total	1,197,749

Seedlings were planted by personnel of the Game Commission on Farm-Game Lands as follows:

Coniferous	59,035
Multiflora Rose ..	176,850
Other Species ...	28,815
Total	264,700

Grand total of seedlings planted on Farm-Game Projects—1,462,449

Sometimes it is desirable to purchase food strips of corn or small grains from the cooperators to leave standing as game food. During the past year food strips containing 108.75 acres were purchased from these cooperators. Employees of the Game Commission planted 16 acres of food strips on Farm-Game Projects.

One of the most effective programs on Farm-Game Units to increase food and cover for game is to cut woodland borders. As on Game Lands, this soon produces a wonderful growth of shrubs, briars, etc. Every effort is made to cut these borders on the south side of the woods, so that the sunlight will have a better opportunity to produce new growth naturally. The farmer is pleased to have these borders cut because it enables him to produce good crops directly to the edge of this border, instead of having poor crops on the last 25 to 30 feet of the field next to a woods because of the shade produced by the trees.

Wildlife border work on Farm-Game Projects was done as follows:

Linear feet planted ..	37,761
Linear feet cut	162,609
Linear feet seeded ...	5500
(average width 30 feet)	

Thirty-eight prospective farm pond sites were investigated by Game Commission personnel. Twenty-one of these were recommended and 27 farm ponds completed (this includes some recommended last year). Woodland management was recommended to farmers by the Commission personnel on 1069 acres.

During the past fiscal year the Game Commission received Federal authorization to spend approximately $730,000 to produce better food and cover for the game of Pennsylvania, of which $547,500 was to be refunded to the Game Commission from the United States Fish and Wildlife Service under the P-R program. The final figures show that the Game Commission received $547,490.60 from the Federal Government during the past year, leaving the very small balance of $9.40, which was carried over for expenditure during the present fiscal year.

The P-R program is a long range one. A general welcome is extended to the sportsmen of Pennsylvania to visit the State Game Lands, Farm-Game Projects and other areas to see the immediate results of this extensive wildlife management work. It is also true that many of the best results will show up within the next several years. Sportsmen may be assured that the Game Commission is making every effort to take advantage of the cooperative help extended through the Pittman-Robertson program and will do its best to plan future projects that will insure continued good hunting in the Keystone State.

Editor's Note: This article should not be confused with a series of similar articles published in GAME NEWS from March through the August, 1954 issues, dealing with Federal Aid work on a field division basis. Mr. Cramer's article is a brief summary of the Pittman-Robertson Program in Pennsylvania taken from the Game Commission's annual report to the U. S. Fish and Wildlife Service.

Giraffes, because of their poorly developed voices, communicate with each other mainly by switching their tails.

* * *

The nickname of the scarlet tanager is "Robin with a sore throat" because of its hoarse caroling.

* * *

Because of its consumption of rodents, the Barn Owl is considered one of the most valuable birds of prey. It is seldom seen in the daytime.

If You Want Wildlife Films...

By Thad Bukowski



YOU'VE experienced this one—gone to a sportsmen's meeting where, after the business session was over, someone brought out a movie projector and an enjoyable film. Then for a half hour or so you relaxed, watching a beautiful color version of the thrills you hope to take part in someday. Most of our sporting interests are brought into focus by first seeing a good film on the subject closest to our hearts.

The use of films for their entertainment and educational values is beyond question. One picture surpasses thousands of descriptive words in telling a story. But how and where to get them is often the big, unanswered question.

There are many organizations which supply free and rental outdoor films. Furthermore, there are at least two digests which list the titles of almost all free films available on the North American continent as well as a few from Europe. They are: Handbook of Free Films, 509 Fifth Avenue, New York 17, N. Y. ($10.00) and "Educator's Guide to Free Films" by Horkheimer and Diffor, Educators Progress Service, Randolph, Wisconsin. The latter runs about the same price and lists similar films. One or both of these books might be found in your local library.

If you cannot obtain either of these digests, there are other possible steps that can be taken to build a worthwhile film entertainment program for your organization. For instance, *Outdoor Life* magazine publishes a digest of 1,059 films. Though many of these films are restricted for use in certain states only, enough are listed for everyone to plan a beneficial film program. For a copy of this bulletin, write to Sportsmen's Service, Outdoor Life, 353 Fourth Avenue, New York 10, N. Y. enclosing 35 cents in coins or stamps.

Rental films are relatively inexpensive and often can be used to round out free film programs. Between $1.25 and $2.50 per day will

usually get you a 10 - 12 minute film on almost any subject. Two such films are excellent for a half hour program. Rental films or information on sources from where they can be obtained will often be found at any local photographic supply store. L. C. Vath, Visual Education Supplies, Sharpsville, Pennsylvania typifies sources for rental films. The Pennsylvania State College film library at State College also contains a large number of rental films. Various other distribution centers are located in almost all the larger cities of the Commonwealth. Just look for them in the yellow pages of your telephone directory.

Most of the organizations listing free films can supply them only at certain times and are booked far in advance. In order to learn their policies, it would be advisable to send a form letter giving information on how you plan to use the films, what equipment you have, and how large an audience is expected. You should list dates and films, giving alternate films and dates as second or third choices. Courtesy and care in the use of these films is of paramount importance. Prompt return of borrowed films is mandatory since so many other groups use them. Attendance record cards are usually sent with the films and these should be filled out and returned in the same package, along with any favorable or corrective comments about the films. A typical form letter to use in requesting films, written or mimeographed on club stationary, usually brings better response and is sometimes definitely requested as a prerequisite to getting a film.

Sportsmen's Club
Hometown, Pa.

Film Distribution Company
1234 Fifth Street
City, Pa.

Gentlemen:

Please book us for the following films on the dates shown:

Name of Film Dates Preferred

Alternate Dates

We have our own 16mm sound and/or silent projector. We prefer sound film if available. The films requested have been selected through ——————Guide to Free Films. We have a licensed projectionist to run the films and will return them promptly.

Sincerely,

. . . . ., Chairman
Program Committee

Many film issuing organizations are quite particular about their films for they have experienced damage to valuable movies at the hands of inexperienced projectionists. *In Pennsylvania, no film may be shown anywhere, to any public group unless the projectionist is licensed by the Pennsylvania Department of Labor and Industry.* License application forms and full details on qualifications, tests and procedure may be obtained by writing to this Department in Harrisburg. The Game Commission will not permit any of its films to be shown except by a licensed projectionist and in most cases, in the presence of a Commission representative.

For those clubs which have no qualified motion picture operators on their membership rolls, it is quite often possible to secure the services of a licensed projectionist from local schools. Many schools throughout the Commonwealth now train senior students in projector operation, the boys later qualifying for their license.

Films are expensive to produce and it is mandatory that they be handled with the utmost care. With today's modern projection equipment, operated by experienced and qualified projectionists, they should withstand hundreds of showings before becom-



Photo by the Author

MANY SCHOOLS TRAIN PROJECTIONISTS in order to obtain licensed operators. Ray Mayer, left, and Bob Good, Lawrence County high school students are shown learning projection fundamentals.

ing brittle and worn. The older the film, however, the more chance there is for worn sprocket holes which usually result in breaks or tears. If you do get a break in either a rented or free film which you are using for a club program, it is only common courtesy that you make every effort to have it repaired before the film is returned. In order to complete the showing of the film and to finish a program, it is usually possible for the projectionist to make a temporary splice using Scotch tape or some other binder. But if at all possible, a permanent splice should be made in the film later, even if that involves paying to have the job done at a commercial photo shop. At any rate, never return a film with a break or tear in it without notifying the lending agency of the condition of the film and offering to pay for the damage. Most film distribution centers request that you do not rewind the film after showing it, thus enabling them to check the condition of the film when it is returned to their film library.

The following is a representative list of films available to sportsmen's groups. Distribution agancies listed will service requests in Pennsylvania although almost all films should be booked at least six weeks in advance.

Pennsylvania Game Commission

Films are obtainable only through the six Field Division Offices (see Directory on inside back cover of this magazine). They are available only when it is possible for a Commission representative to present them or be present when they are shown. The Commission *does not* maintain a film lending library.

Some representative films produced by the Game Commission include:

1. Pa. Wildlife Wonders, 45 min. Nature film on bird, animal and insect life.

2. Conservation at Work, 45 min.

Story of numerous Commission programs and the wild creatures they benefit.

3. Days Afield, 45 min. Small game hunting of all types.

4. Wildlife in the Farm Program, 20 min. Story of Pennsylvania's Cooperative Farm Game Program; sportsmen-farmer relations.

5. Adventures of Outdoor Kids, 30 min. Story of two youngsters and their nature discoveries.

6. The Bobwhite Quail, 50 min. Outstanding film on life history of bobwhite.

7. Birds of Home & Garden, 30 min. Features common songbirds native to Pennsylvania.

8. The Beaver, 10 min. Life history, good close-up shots, some trapping.

9. Wildfowl In Slow Motion, 10 min. Outstanding close-ups of many common ducks and other waterfowl.

10. Millpond Memories, 10 min. Various forms of wildlife as seen by boy down by the old millpond.

Modern Talking Pictures, 45 Rockefeller Plaza, N. Y. 20, N. Y.

1. Silvertip, She Say Socko, 18 min. Hunting and Safety in Canadian wilds.

2. Pheasants Galore, 24 min. South Dakota incomparable pheasant hunting.

3. Whistling Wings, 24 min. Duck and Goose Shooting in various areas.

Nash Motors, Div. Nash Kelvinator Corp., 14250 Plymouth Road, Detroit 32, Michigan.

1. Big Game Hunting in Alaska, 30 min. Color-sound.

Institute of Visual Training, 40 E. 29th St., N. Y. 17, N. Y. Also can be obtained from Gaines Dog Research Center, 250 Park Ave., N. Y., 17, N. Y.

1. Bringing Up Your Puppy, 20 min. Color-sound.

Ralston Purina Co., Checkerboard Square, St. Louis, 2, Mo.

1. Handling Your Hunting Dog. 40 min. Training pointers and setters.

2. About Beagles, 15 min. Sound-color. For dog club meetings, training beagles.

Association Films, 347 Madison Ave., N. Y. 17, N. Y.

1. That Boy of Mine, 45 min. Sound-color. A father takes his son vacationing to the northern wilds of Canada by canoe.

Esso Standard Oil Co., Esso Film Service, Drexel Bldg., Phila, Pa.

(This company issues many travelogues about states which include some wildlife or sports aspects such as fishing, hunting, boating etc.) The following are only a few sent out:

1. Pennsylvania, 30 min. Color-sound.

2. New Jersey Journey, 30 min. Color-sound.

3. New England Calling, 30 min. Color-sound.

4. This is Louisiana, 30 min. Color-sound. Some trapping.

5. Rendezvous in the Reef, 30 min. Color-sound. Has excellent under ocean shots of life near Bahama Reefs under water.

Evinrude Motors, 4143 North 27th St., Milwaukee 9, Wisc.

1. Magnificent Wisconsin, 45 min. Color-sound. A travelogue including recreational scenes and facilities.

Gaines Dog Research Center, 250 Park Ave., N. Y., 17, N. Y.

1. Bird Dogs, 10 min. Training methods.

2. Way of a Field Champion, 25 min. Work necessary to train field champion.

CONSERVATION NEWS

Archers Report Fair Kill

The latest count of deer kill tags returned by bow and arrow hunters shows 53 of them took a buck in the special October season in Pennsylvania. The official total will likely be a little higher, when all kills by the bowmen are known.

State game officials classify the archers' 1954 bag of deer not high, not low. Considering that 14,775 bowmen bought licenses for the special deer season this year, it would not have been surprising had more whitetails been taken. The fact deer were widely spread this October, due to a plentiful supply of fall food in many areas, was given as one of the reasons why more of the elusive big game animals were not bagged by bow hunters.

Canada Host to 20th North American Wildlife Conference

Montreal is to be the site of the 20th North American Wildlife Conference which will convene March 14-16, 1955, in the Sheraton-Mount Royal Hotel under the sponsorship of the Wildlife Management Institute. The last time one of these large meetings was held in Canada was in 1942 when the 7th North American Wildlife Conference met in Toronto.

The international North American Wildlife Conference is held each year in a major American city and is attended by administrators of natural resources, biologists, and sportsmen from all over the nation.

AS TOKEN OF APPRECIATION to all U. S. Post Office Department employees who have helped distribute mailed copies of GAME NEWS during past quarter century, the original painting used for the magazine's "Silver Anniversary Issue" was recently presented. Game Commission President John C. Herman, right, made presentation to Harrisburg Postmaster Leo A. Werner as Editor Will Johns looked on.

PGC Photo by Cady





Photo by Holowach

RECORD BEAR bagged in Forest County on opening day of 1954 season was this 490 pound bruin. Mrs. J. A. Pachnick of Titusville was the lucky hunter. Bear measured 7 feet 4 inches from nose to foot.

Deer Herd Management Aims to Benefit All

Virginia's nimrods are being urged by the Commission of Game and Inland Fisheries to have no hesitancy about shooting anterless deer in areas where their harvest is authorized, the Wildlife Management Institute reports. The Commission's advice is based on findings in many states that show an oversupply of deer is actually the greatest menace to the animal's own well-being.

Only through controlled cropping can a deer herd be saved from deterioration once it surpasses its available supply of natural foods. Plants that are weakened by repeated overuse make little growth, produce smaller amounts of browse each year, thereby providing less forage for fewer deer.

The condition of plants that make up the bulk of the deer's diet is determined by field examination. This entails measuring the plants, their growth, and the extent to which they are clipped back by browsing deer. Overcrowded ranges are reflected in the animals by reduced body weights, smaller antlers in the bucks, fewer fawns per doe, and increased mortality among the fawns that are produced. Ranges suffering from too many deer become apparent to the untrained person in the winter when many animals may succumb to malnutrition or are so weakened that disease and other factors take a large toll. Of course, this is what the Virginia Game Commission and other state conservation departments strive to avoid through proper management of the deer herds.

The history of deer management has proven that programs that link the number of animals to their available supply of natural food are best both for the deer and for the hunters.

THIS BIG BUCK was bagged by Robert Heim, of Sharpsville, while hunting near Lykens, Dauphin County, on the second day of the 1954 season. Estimated weight was 170 pounds; 13 points; beam width at widest point 23 inches; beam length from socket to tip 23½ inches; tines were 7, 8, and 9 inches in length.

Photo by C. Paul Blair



History of Chukar Partridge Proves Necessity of Proper Environment

Wildlife managers have repeatedly said the availability or the absence of needed food and cover largely determines the wild bird and animal population in a given area. They have emphasized, also, that natural environment decides whether an introduced wild species will thrive or perish.

Attempts at establishing the chukar partridge in Pennsylvania and neighboring states bear out these truths. Nowhere in the East were required conditions found for chukars. The many thousands of birds released in this state and neighboring ones rapidly disappeared. The only successful stockings were made in semi-arid country.

HOMECOMING CELEBRATION hunting trip in Forest County netted Dominic Constable, Jr., of New Bethlehem, this fine bear. Discharged from military service on November 13, he bagged this big bruin while hunting with his father two days later.

PGC Photo by Parlaman





PGC Photo by Luttringer

13 WAS LUCKY NUMBER for Dauphin County deer hunter Marlin C. Brannan, of Linglestown. He bagged this prize 13 point buck, his first deer in 13 years of hunting, the third day of the 1954 season.

State Provides Year-Around Hunting

Though the fall and winter game seasons are past not all Pennsylvania hunters are putting their guns away. Many of them realize that plenty of sport awaits them, even in winter months.

Many sportsmen declare they get a greater thrill from successfully matching wits with crows or foxes than from bagging game species. Others enjoy the sport of great horned owl hunting. Removing predators from the wildlife scene causes a certain feeling of satisfaction to outdoorsmen. While predator hunts provide no meat for the table they do provide excitement and wholesome recreation.

In many areas these hardy off-season hunters carry out ear corn on their winter trips to leave feed for wild turkeys and other game.



Photo by Don Shiner

CROW HUNTING VALUES

Anyone who goes on his first crow hunting trip with a person experienced in ways of bringing the black rascals within shotgun range becomes interested in the preparations for the hunt. Quite often he is later amazed at the results of such trips because he knows how difficult it is to approach these wise and wary birds.

The newcomer to the game observes that the crow hunter carries a favorite caller or two and plenty of ammunition, and that he may take along live or mounted birds to use as decoys.

The crow hunter insists that the clothing worn blends with the surroundings, and is careful about choosing a location and a place of concealment, with enough opening to fire at the winged targets. If live or mounted decoys—great horned owls or crows, or both—are used they are strategically placed in openings. Everything possible is done to allay the canny bird's suspicion and stimulate his curiosity or animosity so he will come within gun range. His mortal enemy, the great horned owl, birds of his own feather or a call played upon to indicate distress and a need for help from other crows usually do the trick. Great success is achieved only by those who are expert in calling or decoying techniques.

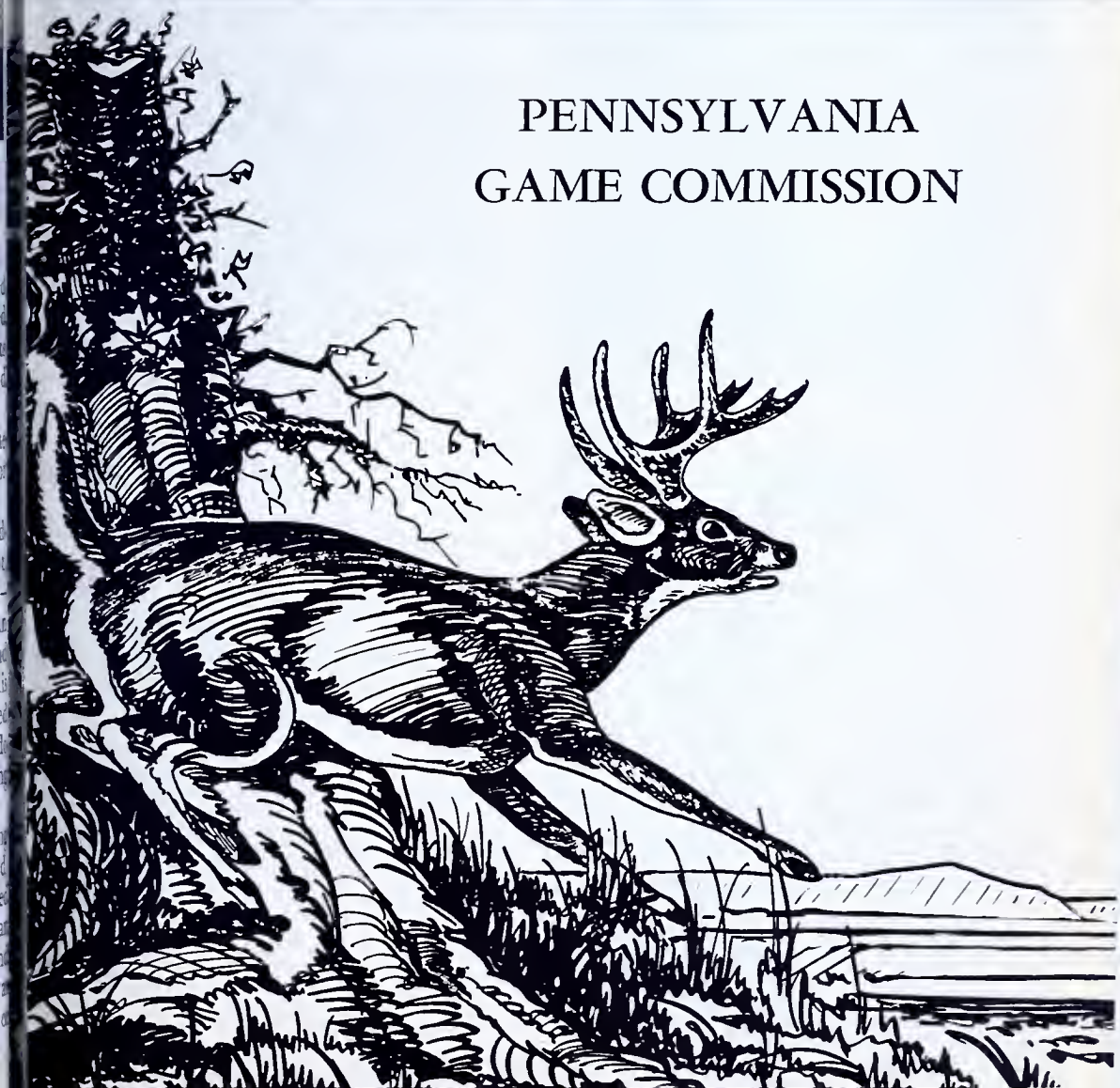
Crow hunting offers a special brand of sport shooting and an intriguing contest of wits and skill that also keep sportsmen's eyes sharp, year around, for game bird shooting in fall. Many outdoorsmen have become so fascinated by the off season sport they declare they would rather hunt old corvus than wild game. Control of this unprotected bird is desired by many sportsmen and agriculturists. They advocate keeping crows down to reasonable numbers as important to small game and song bird protection and to the reduction of farm crop losses.

IN HONOR

25 Years

OF FAITHFUL SERVICE

PENNSYLVANIA
GAME COMMISSION





25 PENNSYLVAN YEA



ESTHER M. GILL

Special Secretary Stenographer to
the Executive Director
Harrisburg
Game Commission Service 25 years

Served as Stenographer-Clerk, Bureau of Predatory Animals from November 1, 1929 to August 16, 1933; Sr. Clerk-Stenographer, Division of Office Maintenance (now Accounting and Service Division) from August 17, 1933 to December 31, 1938; Stenographer-Secretary to the Assistant to the Executive Director from January 1, 1939 to April 1, 1944 when she was promoted to her present position.



MAXWELL N. OSTRUM

District Game Protector
Galeton
Game Commission Service 25 years

Served as Game Refuge Keeper from August 16, 1929 to October 15, 1933 when he was promoted to his present position.

ME COMMISSION

UB



WILLIAM LANE

Game Propagator
Eastern Game Farm, Schwenksville
Game Commission Service 25 years

Served as Game Refuge Keeper from May 16, 1929 to May 15, 1936; Traveling Game Protector May 16, 1936 to December 31, 1938; District Game Protector January 1, 1939 to May 1, 1952 when he was transferred to his present position.



DELBERT L. BATCHELER

Head Photographer, Conservation
Education Division
Harrisburg
Game Commission Service 25 years

Served as clerk in Bureau of Predatory Animals from October 2, 1929 to June 30, 1936; Sr. Publication Clerk, Conservation Education Division from July 1, 1936 to July 1, 1946 when he was promoted to his present position.



PGC Photo by Parlaman

Muskrat Trapping

By Larry J. Kopp

ALTHOUGH the muskrat trapping season opened on the first day of December, there are many "ratters" who are just now getting their trapline in operation.

Because of the vast difference in pelt quality between early December caught muskrats and those taken later in the season, an increasing number of trappers who trap on private property do not go after muskrats in a serious fashion until late December and on through January when the fur has reached its peak of primeness and commands top quality prices.

Frequently however, the urge to go deer hunting or pressing farm work tends to detain the trapper until later in the season. But whatever the reason, thousands of Pennsylvania muskrat trappers can be seen plodding along our many miles of streams in quest of our most popular furbearer.

Watery eyes and the penetrating gales of old man winter receive little attention as the trapper shoulders his bag full of ever reliable number one traps and heads for the stream. If it happens to be an experienced trapper, this bag full of traps will contain not just one kind; but a least three different types of number one traps. A good percentage of the expert's traps will be of the stop-loss variety. These are used for sets at all places where it is difficult or impossible to make a drowning set. These would be places where the water is six inches or less in depth. Where the water is over six inches deep, drowning sets can be made. Thus a second type of trap would be the ordinary number



one long spring. This is a fine trap, but not suitable for setting on the right hand side of a stream; when you are facing downstream that is. Therefore a third type of trap would be the number one underspring which can be set conveniently on either side of the stream. When I say that a long spring trap cannot be properly set on the right hand side, I mean that it cannot be set as effectively because the spring has to be pulled around towards the jaw opposite the one which is held down by the trap dog, and this has a tendency to force the jaw up too far. As a result it becomes quite difficult for a muskrat to be caught, and usually the animal merely springs the trap when it steps upon the trap plate which extends beyond the raised trap jaw. This may be difficult for the novice to comprehend, but try it and you will shortly see just what I mean.

Some trappers might wonder why one could not use all stop-loss traps? To be perfectly frank, there is no reason why you cannot use only stop-loss traps. Most trappers use them only where no drowning sets can be made with others for economical reasons since they are more expensive than others.

Another reason why some trappers do not use stop-loss traps exclusively is simply because the long spring cannot be moved to either side; that is it always extends straight back. Because of this feature, the trap often misses a catch when the upcoming spring knocks the muskrat's foot away. This also explains why it is important to move the spring on long spring traps to the side. If a muskrat would pass over your trap from only one direction it would be a simple matter. But as it is one never knows whether the animal will pass over the trap when going upstream or when coming downstream. Thus your trap must be set so that it makes a catch either way. As already explained, this is accomplished by moving the spring to one side, preferably towards the jaw held down by the trap dog; or opposite the free jaw.

While on the subject of sprung traps I am well aware that a large percentage of sprung and empty traps every morning takes much of the pleasure out of trapping. Being able to set your traps so that they will make a perfect catch regularly is what makes a good 'rat trapper. The foregoing paragraphs about the proper use of various traps might explain in part why you find many of your traps sprung.

But there may be other reasons. For instance, traps set for muskrats must always be set in the water, not on the bank. I have frequently seen novice trappers set their traps in muskrat slides half way up the bank. Much worse, they were anchored to small saplings with binder twine. This is all wrong, and I just wish that young trappers would learn to pay closer attention to this column, and also to field instructors. You must learn once and for all that muskrats cannot be caught successfully on dry land.

To correctly set a muskrat trap it must be set in approximately two inches of water, and as near to the bank as possible. Now if you find a good location for a set such as where numerous droppings indicate the animals come out on the bank to feed and rest, but you see no place where the trap can be set as I describe, then you must make one. With your hands, or by using a garden trowel, scoop out a bed in the mud or clay, or whatever type soil it happens to be, large enough to accommodate a number one trap, and deep enough so that the trap will be covered with, or set in, at least two inches of water.

This business of making a trap bed for muskrat traps extends also to so called slide sets. Here some trappers literally hang their traps on the bank.

Do not set the trap on an angle just because the slide happens to be on an angle. Make a level trap bed directly at the foot of the slide, in the water of course.

When setting the trap always make certain that the spring of the trap is pointing upstream, not downstream. The larger percentage of muskrats are caught in traps while they are on their way upstream, since they generally swim downstream after feeding, and therefore sets must be made with this in mind. Neither should the trap spring point into the stream or towards the bank. If traps are set this way, the muskrat will have to step over the jaws in order to put her foot upon the trap plate, and more often than not the upcoming jaw will knock her foot away from the trap.

The foregoing of course pertains to underspring traps and the stop-loss variety. Other long spring traps are set as described earlier.

To anchor traps one should always use wire with which traps are attached to rocks. A rock about the size of a brick or larger is satisfactory. Farm trappers can put old plow shares to good use as trap anchors. These have an added advantage in that they cannot be rolled downstream by high water. When rocks are used it is always best to select a long flat rock rather than a round one. Trap anchors are placed out into the stream as far as the chain will allow, but should not be pulled taut. The chain should be lying on the ground flat, otherwise floating twigs and other debris will sling to the suspended chain and when the weight increases the current of the water is liable to pull your trap out of its proper position.

When streams are frozen over, the alert trapper moves all his traps to the open riffles, for at these open places muskrats are literally obligated to appear since they can no longer come out to feed and rest at so many varied places along the stream.

Many times it is possible to locate a natural trapsite along riffles. Such spots as where large rocks or protruding clumps of various grasses form a sort of passageway are excellent locations. If such natural set locations cannot be found, then the trapper must make on with rocks. A large rock approximately ten inches or so high is placed in the water about six or eight inches away from the bank. Between this rock and the bank another rock with a flat surface is placed to provide a solid foundation upon which to set the trap. Use one or more such rocks on top of each other depending upon how deep the water is because here too the trap must not be set in more than two inches of water.

Photo by Larry J. Kopp





OUTDOOR FUN WITH A FUTURE



Conservation Round the Year

By Ted S. Pettit, Conservation Director, Boy Scouts of America

MADE any New Year's resolutions yet? Here are a few more to add to your list that may be a little different from all the rest. These resolutions can all be fun and at the same time may help provide better hunting or fishing a few years from now.

On the next page you will see a calendar of things-to-do. There's something for any month of the year, whether you live in the city, suburbs or on a farm. All of these projects have something to do with wildlife management—the job of providing better hunting for the sportsmen of Pennsylvania. Some of these projects are planned to help you become better acquainted with the wildlife of the state. Others will show you how to work with nature and provide a better place for wildlife to live. Still other activities suggest hunting or trapping—for those things do not conflict with good conservation practices if done according to law and in a sportsmanlike manner.

Now is the time to plan a year's program of conservation activities. Look over the calendar, and read the rest of this article. Check off the things that you think you'd like to do, and which may be done in the area where you live. Then decide when you would like to do them. Use a soft lead pencil or a crayon and fill in the square under the project and the appropriate month. The single diagonal lines in the squares show the best months for each project. The X marks show that a future issue of the GAME NEWS will have an article on that subject, so that you can be sure of definite help. In that way you can plan a year's activity now and if you stick to the plan you'll have a lot of fun. But more than that, you'll be helping yourself to more fun in the outdoors in the future.

If you are a member of the Future Farmers of America, the 4-H Clubs, the Boy Scouts, Girl Scouts, Campfire Girls or a Junior Sportsman's Club, you'll see that many of these suggestions cover projects or requirements that you may be working as part of one of those programs. A little planning ahead of time now will help you be more successful in your other activities. You may find that you are really "killing two birds with the same stone."

The following paragraphs correspond with the headings on the calendar and tell the reason why these projects are important.

Make Nesting Boxes

Some birds and mammals, such as

Conservation Calendar for 1955

	MAKE NESTING BOXES	PLANT FOOD SHRUBS	PLANT TREES	VISIT GAME AREA	WOODLOT MANAGEMENT	TAKE PICTURES	TRAP SNAPPERS	BUILD GAME FEEDERS	PLANT GRASSES	HELP IMPROVE POND OR STREAM	BUILD BRUSH PILES	BE A SOIL DETECTIVE	LEARN TREES & SHRUBS	PRACTICE FIRST AID	BUILD A CONSERVATION EXHIBIT	MAKE A NATURE COLLECTION
JAN.	X			/		X							X		X	
FEB.	X			/		X									X	
MAR.		X	X	/		X			X						X	
APRIL		X	X	/	X	X			X	X	X	X	X		X	X
MAY		X	X	/	X	X	/		X	X	X	X	X			X
JUNE				/	X	X	/		X	X	X		X			
JULY				/	X	X	/		X	X	X	X				X
AUG.				/	X	X	/			X				X		
SEPT.				/	X	X	/			X				X		X
OCT.	X			/	X	X		X				X		X		
NOV.	X			/	X	X		X				X		X		X
DEC.	X			/	X	X		X						X		

KEY:

/ GOOD PROJECTS FOR THESE MONTHS

X GOOD PROJECTS FOR THESE MONTHS AND WILL BE DESCRIBED IN GAME NEWS DURING 1955

woodducks, squirrels and raccoons, build their nests and raise their young in hollow trees. Unfortunately, our sense of beauty, our desire for safety, or certain forestry practices lead us to cut down dead trees that provide such nesting places. Frequently too, wind storms blow down many dead trees. The result is that woodpeckers, woodducks, squirrels and raccoons have fewer places to raise their young, and in some places there may be fewer of these animals than there were formerly.

Fortunately, these birds and animals will use nesting boxes if they are built and set out correctly. Enough nesting boxes in the right places may help very much in increasing the numbers of these animals in a given area. The February issue will tell how to do it.

Plant Food Shrubs

Wildlife conservation experts have found that wild birds and mammals are healthier and get along better if they eat natural foods such as fruits, seeds, nuts, buds, shoots and bark than artificial food that is put out for them. Important too is the fact that they are less likely to fall prey to natural enemies if they feed in natural foods in the wild then if they become concentrated at feeding stations every day.

Plants such as viburnums, the dogwoods, Russian Olive, wild grape, highbush cranberry, the lespedezeas, multiflora rose and other shrubs provide natural food and browse for game animals. The shrubs are easy to plant in fence rows, or along fences or stone walls or in food plots. Planting stock is available from nurseries or in some cases from *the Game Commission*. The March issue will provide suggestions for what to plant and how.

Plant Trees

Trees provide cover and food for wildlife, as well as a source of supply for future timber, fenceposts, paper pulp and other wood products. Trees are also very important in protecting the watershed and in keeping streams and ponds clear and cool the year round. Trees such as pines or spruce provide chiefly cover, but some animals feed on the seeds that grow in the cones. Trees such as black walnut, the oaks, beech, hickory and butternut supply nuts that are eaten by many animals.



Seedlings of the conifers may be purchased inexpensively from commercial nurseries or may be obtained from the Game Commission or Department of Forests and Waters. To plant the nut bearing trees, collect the nuts in the fall and stamp them into the ground in appropriate places. Watch for the April issue for instructions.

Visit a Game Management Area

By visiting a game management area you can see actual examples of what wildlife conservation technicians have done to improve conditions for game birds and animals so that there is better hunting. Many times, abandoned farms are used.

Other times special preserves are set up and managed just to produce more game for hunting. Areas of woodland or useless fields have been developed to produce more wildlife. In many cases, certain areas on farmland that are not suited for crop production are turned into wildlife areas by planting shrubs and trees that provide more food and cover and thus better places for animals to make their homes.

If you visit such an area with the manager or supervisor, or with the land owner the trip will be more worthwhile. Many things you see can be done in the same way on your own farm, campsite or in your yard.

Woodlot Management

Much of Pennsylvania is covered with trees, and consequently a large part of the state's wildlife lives in forests. It is important to know how good forestry can also be good for wildlife. Leaving den trees, for example, may not always be the best idea from the point of view of raising more trees but it is important to many birds and animals. The object of wildlife management is to carry out forestry practices so that the mature and useful trees may be cut and sold or used, and at the same time so that the other benefits of the forest are realized.



Fencing woodlots so that cattle are excluded is important. Protecting the forest from fire also helps wildlife; making small clearings in the woods or lopping off some trees will provide more food or browse for animals. Planting food and cover shrubs around the edges also helps wildlife. The April issue will have more details.

Take Pictures

Nature photography is one of the most fascinating hobbies there is. Whether you use a box camera and black and white film, or a more expensive camera and color film, you can have fun and many of the thrills of hunting all year round. Closed seasons mean nothing if you hunt with a camera and even your own backyard or a city park can become your hunting ground. Photographing wild birds and mammals, insects, flowers or trees is possible anywhere, at any time, and the more successful you become with practice, the more you will want to find bigger game to record on your negatives or color transparencies. Some day you may even progress to color movies of big game, and travel the world over to get new species. But in the beginning a box or inexpensive folding camera can be used with very satisfactory results, and the better an outdoorman you are, the better your pictures will be.

Trap Snappers

Snapping turtles in many lakes and ponds are harmful to wildlife, especially ducks. Snappers have been known to kill all the young from three woodduck nests in a very few days after the downy young ducks hit the water. Other ducks such as mallards and blacks also fall prey to this turtle.

However, snapper traps are easy to build and set out in a lake, and snappers are easy to catch. Besides helping protect ducks and other wildlife in a pond, you can provide yourself with some good meals of snapper soup or snapper stew. A future issue will tell how to catch snappers—and how to prepare them to eat.

Build Game Feeders and Shelters

Ice storms and heavy snow in the winter are hard on some game birds. When ice covers the shurbs and snow covers the ground, they cannot find sufficient food to keep them healthy and they die from exposure or are too easy prey for their enemies. Temporary measures may be provided, until natural food shrubs are big enough to provide food and cover. Feeders and shelters may be built and strategically located where animals may find them, and feed on the seeds and grain which you put out for them.

Plant Grasses or Trees to Prevent Erosion

Wildlife conservation experts know that wildlife grows on good soil. Fish conservation technicians tell us that streams and lakes filled with silt from eroding farms and forests do not provide good fishing. The silt covers fish spawning beds, or cuts of the light necessary for plant life to grow in water, plant life that helps provide food or cover for fish.

Many times, trees or grass planted along the stream and lake banks will help. At other times, it is necessary to protect the soil on the hills around the water so that rains cannot wash silt into the waterway. This same plant cover on the hillsides helps build up the soil, which in turn helps land animals. Thus by controlling erosion, you help improve fishing and hunting. Watch for the May Issue.

Help Improve a Pond or Stream

Many animals live in, on or near



water and no place else. Many times waterways that are not now suitable for wildlife may be improved to provide nesting places for ducks, better for fishing, better for muskrats, beavers or other aquatic animals.

In streams it may mean building small dams to provide some deep holes and riffles; in lakes or ponds it may mean planting the edges to reduce erosion and to provide cover or shade. It may mean helping to create small marshes by building dams and flooding small area of surrounding land. But there are many places where natural waterways may be improved for wildlife.

Build Brush Piles

In the process of woodlot management or in the pruning of orchards, or even in cutting operation in a forest, there will be branches and slash left that will serve no useful purpose. You can use these branches, saplings and slash to build brushpiles along the edges of the woods or along fencerows or hedgerows. These brushpiles provide immediate cover for rabbits and game

birds; and in a few years will become food patches for many animals and dense tangles where more cover is provided. Brush piles should be six or eight feet high and twelve or so feet in diameter. They should be sturdy enough so that wind cannot blow them over. They should be placed along natural runways so that animals can use them without getting out in the open.

Be A Soil Detective

Soil erosion as being harmful to fish and other wildlife has already been mentioned. But do you know to measure how much mud and silt runs down a stream, or settles to the bottom in a pond or lake? Watch for the May issue for a simple way of finding out.

Learn Trees and Shrubs

The most successful outdoorsmen and hunters are those that know the trees and shrubs in the area they hunt. They know which ones provide food and cover for animals and which ones are the den trees. They know the tangles and hedgerows where game birds hide and feed, and the thicket where the old tom or the big buck hides out during the day.

By knowing the trees and shrubs of your state—not only knowing their names, but their relation to wildlife—you are helping yourself to more success whether you hunt with binoculars, gun or camera.

Practice Woodsman's First Aid

What would you do if you sprained your ankle several miles from your car, out in the woods? What would you do if you accidentally hooked yourself with the ganghook on a bass plug? Suppose you dropped a pot of boiling soap on your leg while camping, or shot yourself in the leg or foot. Would you know what to do 'til help arrived, or 'til you could get to a doctor?

Accidents are not nice to think about, but they may happen to you. Get a good first aid book and practice up before you go out. A Boy Scout Handbook has the information, as does the Red Cross First Aid Manual.

Build a Conservation Exhibit

You may be convinced that conservation of wildlife, forests, grasslands and water are important to you and the future of the country, but you'd be surprised at how many people have never heard the word or know what it means. Simple exhibits of models, posters, and other displays which will be described in future issues of the GAME NEWS may be set up in store windows, schools, movie lobbies and other public places and will help other people understand the importance of conservation. If your FFA Chapter, 4-H Club or Scout Troops has a booth at the county fair or sportsman's show, build a real conservation exhibit or demonstration. The more people that understand the need for conservation and practice good conservation, the better it will be for all of us.

Make A Nature Collection

Everyone who spends a lot of time outdoors collects things he finds. It may be animal skulls, or shells, rocks, interesting bits of wood, feathers, odd insects or a host of other things. These collections can be a nuisance around the house or they can be the source of interest and entertainment. They can be collecting for the sake of collecting or they can have a useful purpose in helping you find out more about the outdoors and the interesting plants and animals that live there. The September issue will have some suggestions for making collections with a purpose.

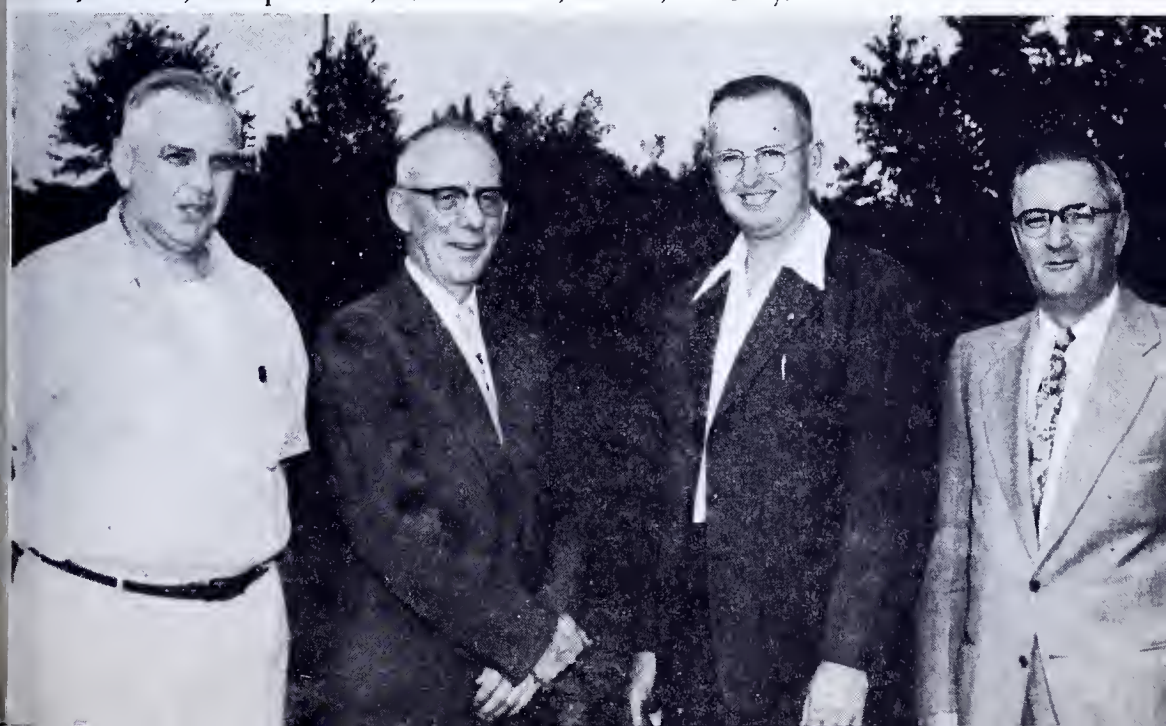
CLUB NOTES

At the suggestion of District Game Protector Bill Lee, the *Albion Sportsmen's Club* proved last summer that "Conservation Can Work." Taylor Run is a beautiful little spring-fed run, about 1½ miles long, which heads just north of Albion and empties into Temple Run at the Borough's edge. Temple Run then flows west through the Albion Park and Fair Grounds to enter Conneaut Creek a half mile west of town. The headwaters flow through the Bessemer Railroad property and are paralleled by a road for a short distance. And that's where trouble began. People from this area took advantage of the steep 25 foot bank from the roadside to the creek bed, using it for a dump for many years. Naturally, high waters of early spring flushed the creek bed and deposited debris in every cranny for the length of the stream. It was not only nauseating to behold and hazardous to travel but a very real danger to the health of the community.

Everyone agreed the situation was deplorable and should be remedied. Game Protector Lee and Fish Warden Ed Pond, who promised to assist in every way possible to make the stream worthy of stocking, enlisted the support of the sportsmen. They wrote the railroad company and received permission to do whatever was necessary at the dumping sites located on railroad property. Club member George Burns furnished his bulldozer, operating it himself in removing the debris and burying it. Other club members raked the junk from the steep banks. A few hours' work and the trouble spots were cleaned up, ready for planting. The Fish Commission furnished signs prohibiting dumping and now work is underway to develop the entire length of the stream to provide good fishing in the future.

* * *

NEW OFFICERS of the Northwest Division, Pennsylvania Federation of Sportsmen's Clubs are, left to right: Henry Gates, Sharon, Treasurer; Dr. R. S. Dow, Polk, President; Donald Curtis, Warren, Vice-president; C. Paul Blair, Sharon, Secretary.





VENANGO BUCKTAILS believe in putting conservation to work. Here both senior and junior members (known as "Beavers") plant asiatic chestnut seedlings on lands open to public hunting in Venango County.

As a reward for their faithful service and interest in Chapter activities, the York Chapter No. 67, Izaak Walton League of America chartered a bus last spring and gave their Junior Members a tour of several State Forest areas. It was not only entertaining but also served as an excellent lesson in conservation and forest management.

* * *

Many clubs throughout Pennsylvania annually conduct winter feeding programs for wildlife. But here's one with better than average planning and success. Last year *Cambria County Sportsmen's Clubs* met on two different occasions to map out a program so that different clubs would not duplicate their efforts in the same areas and in order to make better use of the money and facilities available. According to Thomas Farren, president of the Jamestown Rod and Gun Club, Portage, the plan was highly successful with over 125 bushels of ear corn being used to the best advantage. Cooperating clubs included Beaverdale Sportsmen; Lovett, Summerhill and Sandy Run sportsmen; Cambria County Game Protective Association; Portage Community Sportsmen; and the Jamestown Rod and Gun Club.

* * *

The constitution of the *Bucktail Archers Association* has been amended to include a junior member in the Board of Directors. This director must be a junior himself, both nominated and elected by junior members. The action was taken to obtain opinions of the entire membership, especially the juniors, before formulating policies and programs.

* * *

Ever wonder if some practical and worthwhile use could be made of discarded Christmas trees, even those left-over at local dealers? The *Hellertown Sportsmen's Association* has an excellent answer. Last year club members gathered several truck loads of evergreens once destined for the junk heap or a bonfire and stored them on their farm. Throughout January and February the sportsmen, assisted by local Boy Scout troops, gradually distributed the "stock," making brush-pile rabbit shelters from the old trees. Good conservation!

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PENNSYLVANIA

Game News

EBRUARY 1955

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THE STORY BEHIND THE COVER

FROM deep in Pennsylvania's more remote forest areas, there comes on crisp February nights a low, booming *"hoo hoo hoo-hoo hoo hoo."* And if that lonely call doesn't cause a tinge of fear in your heart, the blood-curdling scream which occasionally follows is sure to send a real chill chasing up your spine. But for humans, there's really little cause for alarm—the hooting and screaming are only eerie indications that the Great Horned Owl, most fearless of them all, is hunting the midnight woods.

For "Bubo," biggest of all the owls, it was truly "June" in January. Courtship started last month and by now two to five dull white eggs have been laid in remodelled hawk or crow nests located in heavy timber. Through winter's snow and sub-freezing weather, these owls incubate the eggs and provide the grotesque, downy white fledglings with a wide variety of food. The young are unable to fly until they are almost three months old. During this time especially, almost nothing that walks, crawls or flies is safe when the adult great horned owls stalk the moonlit airways, ghosting along at tree top level. Cottontail rabbits, snowshoe hares, ruffed grouse, wild turkeys, mink, weasels, opossums, chipmunks, rats and mice, reptiles and amphibians—all that move can attract attention from the "tiger" owl's big, yellow eyes. Even the lowly skunk and porcupine, equipped with nature's best defensive weapons, are powerless in the great horned's swoop of death.

Although seldom seen, the great horned owl is not uncommon in the Commonwealth. Many of these winged predators are probated for the current bounty payment of $5.00 per bird in a control measure aimed at reducing their numbers to give the human hunter more game. And for the outdoorsman who seeks a thrilling off-season sport, particularly from June through October, hunting great horned owls provides a pleasant and profitable pastime. Skillful imitation of the birds' lonesome hooting, coupled with complete alertness for the whisper of wings spanning at least four feet can give you the most unusual and exciting moments possible in the outdoors. As the great horned owl casts its shadow of death over moonlit woodland glens, conservation calls for man, its only enemy, to control the most ferocious killer of them all.

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Commonwealth of Pennsylvania
GEORGE M. LEADER, *Governor*

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PENNSYLVANIA GAME NEWS

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By
Earl Poole

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Hon. George M. Leader
Governor of Pennsylvania

COMMONWEALTH OF PENNSYLVANIA
GOVERNOR'S OFFICE
HARRISBURG

THE GOVERNOR

January 28, 1955

TO THE SPORTSMEN OF PENNSYLVANIA:

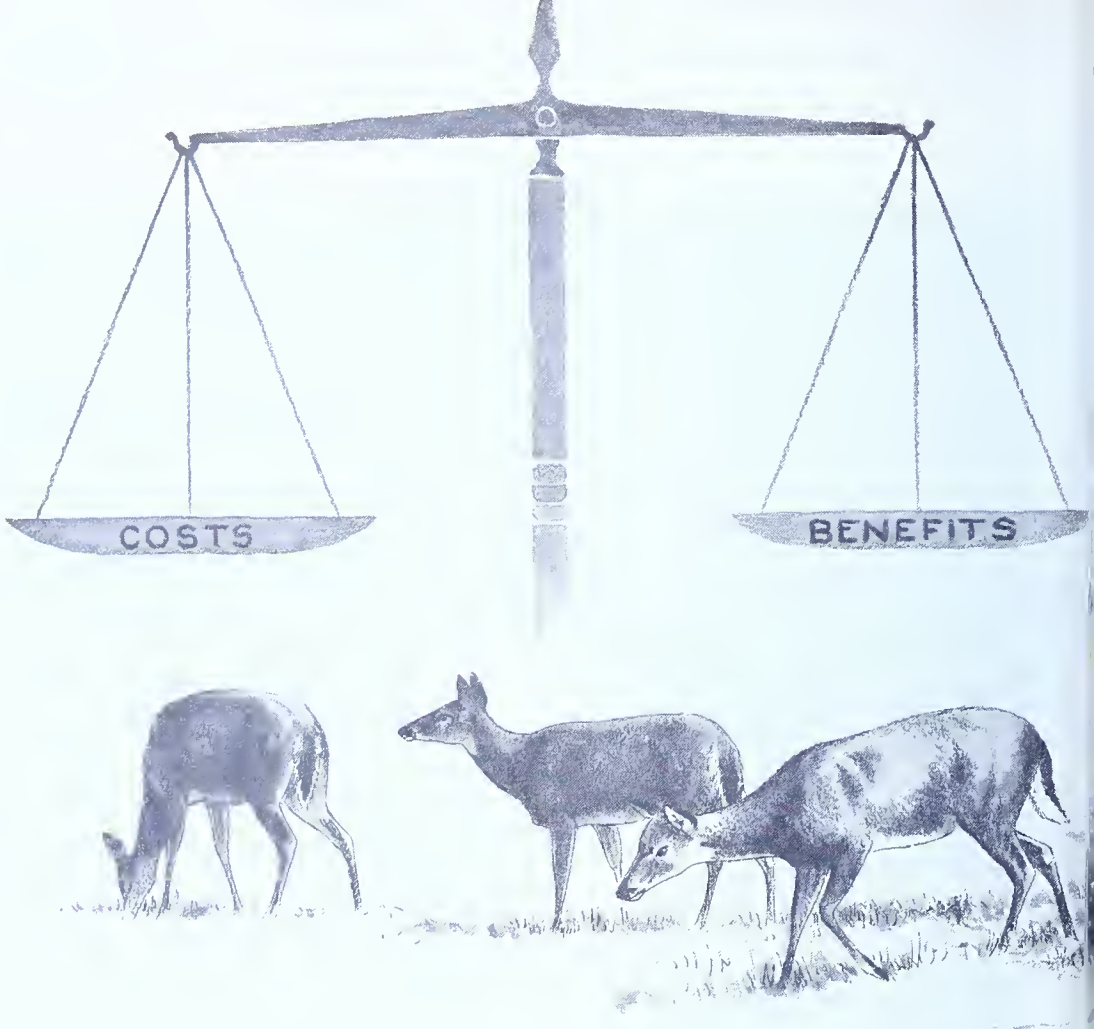
I am happy to have this opportunity to extend my greetings and support to all of you who enjoy the great outdoors of Pennsylvania.

During the past forty years Pennsylvania has achieved an outstanding record in leadership in the management of its wildlife resources. My personal belief is that we can maintain and even surpass that enviable record. I am in favor of retaining the monies accruing from the sale of hunting and fishing licenses in Special Funds to be used for the same specific purposes as has been in the past.

It will be necessary for all of us to work together in carrying out sound and progressive programs to meet the tremendous demands being placed upon our natural resources by a rapidly increasing human population.

I am confident I can rely upon your cooperation in our efforts to insure the maintenance of our wildlife resources, commensurate with the needs of the people of Pennsylvania.

George M. Leader



Costs and Benefits of the Pot

By Jerome H

THIS is the last in a series of five articles reporting our research on deer damage to farm crops and income from hunters. It has been quite a while since the first story appeared last October. Now it is February. Another deer season has come and gone. In the warm glow of trophy and club rooms, hunters are re-telling and probably improving upon their deer-hunting experiences of last fall. And out in the open country things look pretty bleak—but the farmers are still thinking about the deer herd. Since there was no anterless deer season last fall, they are wondering how much the next season will bring in deer damage to crops—will it be more? And in their places of business we find the businessmen who have counted their receipts from the deer season. They are thankful for the free-spending deer hunters and the deer herd which brought them to Potter and Monroe Counties. And all the other folks who earned some pin money during the deer season are thankful too.

But what about the deer, the creatures that brought about all this research effort in the first place? Well, they are trying to keep alive. It's about the worst time of the year for



d Monroe County Deer Herds

Woods Thomas

them. Most of the ground cover, including that delectable winter wheat, is buried under the snow, and the woody browse that they can still reach is bitter.

Time to Reflect

The subdued light of winter makes a pretty good time to reflect on what we have reported. Any unfortunate incidents of the last hunting season have been dulled by time so that they no longer seem so important. And the next harvest season is far enough away that farmers probably are thinking more about their planting and fertilizing plans than they are about crop damage.

In the first article of this series we discussed some of the underlying causes which give rise to the deer management problem. We pointed out that the problem of deer management really stems from two basic forces. One of these is the competition between various people for the use of land for different purposes such as agriculture, forestry, deer habitat, building sites, and the like. The other involves our concept of property rights and the inconsistency between private property rights in land and public property rights in



the deer herd. The real problem as far as the deer herd is concerned is more one of managing land and men, not deer.

In other issues of the GAME NEWS we reported many details concerning the 1951 deer herd situation in Potter and Monroe Counties. These included such things as the amount of crop damage, the dollar value of crop damage, the income created by deer-hunter and hunting-camp expenditures, etc. In this issue we summarize our finding, and evaluate the 1951 deer herd situation in Potter and Monroe Counties from the viewpoint of the several interest groups.

One means of evaluating the situation is to look at the costs and benefits of the deer herd to each of these interest groups. "Costs" are those things about the herd that make some group suffer damages. "Benefits" are those things about the herd that enable some group to gain some good. Of course these costs and benefits are both tangible and intangible. "Tangible" costs and benefits can be measured in concrete terms, such as dollars and cents. "Intangible" costs and benefits are those which can not be precisely measured. An example of this is the amount of pleasure persons get from seeing a deer—an intangible benefit difficult to measure.

Costs and Benefits

According to the figures we reported in detail before, in 1951 deer and deer hunters in the two counties damaged crops and other farm property worth almost $195,300. On the other side of the ledger was the $1,430,100 in business that deer attracted to Potter and Monroe Counties. Some readers might assume that the income far more than offset the damage—and therefore, that the damage was unimportant. But this is not necessarily correct. The dollar damage aproached a NET loss to the farmers, while the dollar income was GROSS to those who received it. It was impossible for us to tell how much of this gross income was net profit. The two figures, net dollar damage and gross dollar income, therefore, can not be directly compared.

Four groups are especially concerned with management of the deer herd. These are the farmers, the hunters, the businessman, and society in general. The presence of deer results in certain costs and benefits to each of these groups. In a general way we can evaluate the situation from the viewpoint of each of these groups by comparing the costs and the benefits which each group incurs as a result of the herd.

The Farmer Group

Included here were farmers who had twenty or more acres of crops in 1951. Tangible costs of the deer herd to the farmers included crop and property damage by deer and deer hunters. In Potter County these costs totaled about $148,000, and in Monroe County about $47,000. Since these damages were figured in terms of their *value at the farm* they come very close to representing a net loss in income to farmers of Potter and Monroe Counties.

In addition to these, the farmers incurred other tangible costs in the form of farm woodlot damage by deer, and the expense of killing deer to prevent crop damage. They also had costs of providing goods and services to deer hunters, but these are a necessary part of the business of serving hunters, and were offset by income from providing room and board. While costs other than crop and property damage were not determined in this study, they must be considered when evaluating the desirability of the deer herd.

The farmers of Potter and Monroe Counties also incurred certain intangible costs because of the deer herd. These included such things as the threat to personal safety, and inconveniences caused by some careless and unthinking hunters. While it is impossible to place a dollars-and-cents value on these intangible costs, they may be quite important.

But the farmer's position is not as black as these figures seem to indicate. The deer herd in these counties brought certain benefits to the farmers. Some of these benefits were tangible, others intangible. The tangible benefits largely were of two kinds. Probably the more important of these was the income that farmers received for boarding deer hunters. Potter County farmers who provided these services to deer hunters received approximately $44,500 from this source in 1951, while Monroe County farmers received about $1,600. It must be remembered that these are *gross income figures* and that the expense of providing these services to hunters was not taken into account.

The second tangible benefit of the deer herd to the farmers was in the form of deer killed for home consumption. In 1951, Potter County farmers killed at least 324 deer for home consumption, while the Monroe County agrarians killed approximately 55 deer for this reason. No dollar value was placed on deer killed for home use, but they do represent a real benefit to this group.

The farmers also incurred certain intangible benefits. Many of them are ardent sportsmen who enjoy deer hunting as much as do city folk. To them the deer herd also has aesthetic value. Despite the amount of crop damage, there are only a few farmers who would like to see the deer herd eliminated.

There is another intangible benefit too. Many farmers with whom we talked said that they look forward to the deer season because it gives them a chance to visit and make friends with folks from outside their community. While it is impossible to measure an item of this kind, it could be considered a minor benefit.

On the basis of the substantial amount by which the total tangible costs exceeded the total tangible benefits, it appears that the deer-herd situation in Potter and Monroe Counties in 1951 was undesirable from the viewpoint of this group. When the intangible costs and benefits are considered, however, the case



is not as clear-cut. But by comparing the probable size of these intangibles as best we can, and balancing them against the tangible costs and benefits, the conclusion seems justified that the deer-herd situation in Potter and Monroe Counties in 1951 was *not desirable* from the farmers' viewpoint. In other words, it is probable that the farmers of these counties would have been better-off had the deer herd been smaller than it was in 1951. This does not mean that the deer herd should be eliminated. It merely means that the economic position of the farmer group would be improved if the herd were reduced to the point where it more nearly "fit" the available natural habitat.

The Deer-Hunter Group

This group included all people who hunted deer in Potter or Monroe County in 1951. In order to take advantage of the benefits of the deer herd, these hunters incurred certain tangible and intangible costs.

Tangible costs included the money spent while hunting in the county. In 1951, deer hunters spent $1,014,244 in Potter County and $368,922 in Monroe County. In addition, hunters spent $43,324 in Potter County and $4,054 in Monroe County for construction, maintenance, and operation of hunting camps.



But these are only a part of the tangible costs to the hunter group. In addition to the personal hunting expenses incurred *within* the county, certain additional expenses were incurred *outside* of the county. These expenses included money for such things as rifles, equipment, clothing, supplies, transportation, etc., that out-of-county hunters bought before they got to the hunting area. The same is true for hunting camps in that owners of many of these camps purchased materials and supplies outside of these counties and transported them to the camp-site. While the amounts of these expenditures or costs were not determined, they undoubtedly were pretty big and must be considered in an evaluation of this situation. Another cost of the deer herd to this group, which was not determined in this study, is the loss of income due to time lost from jobs and businesses while deer hunting.

Intangible costs of the deer herd to hunters included such items as the personal effort, danger, and occasional injury and death while deer hunting. Again it is impossible to put a dollar tag on this class of costs, but they must be considered as such.

On the positive side of the ledger, the deer herd provides two distinct types of benefits to the deer-hunting group. Foremost of these was the intangible, recreational value of the deer herd. It's great sport to hunt deer. The other benefit was the food value of the deer killed. In 1951, hunters killed 6,716 deer in Potter County and 1,196 in Monroe County. This was about 395 tons of deer, hog-dressed.

In view of the limited data available and the intangibles involved, it is difficult to evaluate precisely the 1951 deer-herd situation from the standpoint of the deer hunters of Potter and Monroe Counties. The total number of hunters, the large

percentage that got their deer, and the amount of money that they were willing to spend indicates that the net benefits to this group were substantial.

Some believe that because of the overpopulated deer habitat in these counties, a smaller deer herd producing better trophy animals would have more recreational value than a herd of the current size. If this is the case, then it is quite probable from the hunters' viewpoint that a smaller herd more in line with what the natural habitat can support would be a desirable situation.

The Businessman Group

The businessman group included all folks in Potter and Monroe Counties who operated a business which depended partly or wholly on the amount of deer hunting activity. The members of this group have a real interest in the management of the herd because part of their business comes from deer hunters.

The primary benefit of the herd to businessmen was the income received for goods and services supplied to deer hunters. The merchants of Potter County received about $1,013,000 from this source in 1951, and those in Monroe County received about $371,000. The businessmen of course had additional costs in supplying goods and services, but these were part of their business and were covered by additional income.

Businessmen and others also benefit from the increased purchasing power of local residents induced by the original expenditures of deer hunters. This is known as the "multiplier effect" of money. The money that hunters spent in the county was re-spent several times. For example, deer hunters paid room rent to the hotel keeper, the hotel keeper paid wages to his night clerk, the night clerk paid rent to his landlady, the landlady paid the coal man, the coal man bought groceries, and so on into the night. Any banker will tell you that this kind of "pump-priming" stimulates business. During the hunting season and for some time afterwards the banker sees dollar bills floating from hand to hand—all marked "deer money." While no attempt was made to evaluate this secondary benefit, the large amount of money spent by deer hunters would suggest that these secondary benefits were of considerable importance. And of course, many businessmen in these counties also are deer hunters; they share in the recreational and aesthetic values of the herd.

We don't have enough information to evaluate completely the position of the business man group. But our data does suggest that the deer herd was responsible for a large increase in the business activity of Potter and Monroe Counties. It is quite certain, from the view-point of the businessman group, that the 1951 deer-herd situation in these counties was acceptable.

Society

For the purpose of this analysis, "society" included all people who live in Potter and Monroe Counties. The costs and benefits of the deer herd to this group can be approximated by summing the costs and benefits of the herd to the separate groups discussed previously.

Costs of the deer herd to society included the extent of damages to farm crops and property by deer and deer hunters, the extent of deer damage to forest growth and reproduction, and expenses incurred in the provision of goods and services to deer hunters. Additional costs were incurred in the form of expenses of killing deer to prevent crop damage, hunting expenses, and the effort involved by local deer hunters.

Benefits of the deer herd to this aggregate group included income derived directly from the deer hunters and the subsequent shot-in-the-arm



these expenditures gave to business, employment, and income of the area. Additional benefits accrued to this group in the form of deer killed for home consumption, and the recreational and aesthetic values associated with the herd.

With the time and money available, we could not measure *all* the costs and benefits of the deer herd to the residents of Potter and Monroe Counties. In fact, this may be impossible. We hope you can see now how complicated this thing can get. But an estimate of the relative costs and benefits determined in this study, together with the probable size of those that were not determined, indicates that the residents of Potter and Monroe Counties were better off in 1951 than they would have been with NO deer.

We can't tell from our data whether the various groups would be better or worse off with deer herds of a different size than existed in 1951. A study similar to this would have to be repeated, after the herd-size had changed.

Alternatives

Seldom is there *one best solution* to a problem. Our world is far too complex for that. And in the case of the management of the deer herd, we are confronted with biological life that is governed not only by man but by the laws of nature. There are alternative approaches to this problem, but even here it is not solely a case of "this" or "the other." Most often a combination of several approaches must be considered, using the best that is in each. Here are some alternative courses of action, modified by the conditions above, that might be useful in deer management. No attempt is made here to list all the arguments for or against these alternatives. There are so many pros and cons that much more space would be required.

1. *Set up a system whereby those who stand to gain from the deer herd compensate those who stand to lose because of it.* In this case the hunters and businessmen (the gainers) would compensate the farmers (the losers) for crop damage. Under this system the chances are that the net gain in social welfare would be greater than if the deer herd were absent.

This sounds pretty good. but carrying it out is another matter. A compensatory system somewhat like this was tried in at least one state, with disastrous results. The program could not be administered. One of the main reasons was that because of the thousands of fields damaged by deer, it was an impossible task to determine in each case how much of the low yield was due to deer damage and how much was due to other causes, such as lack of fertilizer, drouth, etc. Besides, the present income of the Pennsylvania Game Commission would not permit such payments—which would run into several million dollars yearly for the whole state. This does not appear to be a good alternative.

2. *Private landowners might make a charge for the privilege of hunting deer on their lands.* Many would say that this is an undesirable alternative from the standpoint of free public hunting. And besides, some farmers don't suffer crop damage, some would not establish practices that encour-

age game, yet they could collect hunting fees. Enforcement of the fee payment would not be easy because ownership boundaries are not clearly marked. A few landowners, however, already operate private hunting grounds and charge a fee for entering. Some hunting clubs do practically the same thing. They own land, post it against outsiders, and charge members a fee for maintaining it.

3. *Keep the deer herd at the size that can be supported by the available habitat.* This could be done by regulating the time and length of deer hunting season. When the number of deer exceeds the supply of available food in the habitat, then the deer become desperate and feed on crops. Under this plan of regulating deer numbers to the available food supply, some crop damage is inevitable, but effort would be made to keep it at a reasonable level. Present management efforts are directed toward accomplishing this.

4. *Encourage further state ownership of deer lands.* Deer are considered public property. If the land on which they feed is transferred from private to public ownership, then at least one point at issue would be solved—both the deer and the land become public property. The state now owns large tracts of land, and the purchase of more land may be intensified. We should point out, however, that these purchases usually soak up some farm land. When this land grows up to mature forest, then its carrying capacity may be less than the present combination of forest, meadowland, and cropland—unless cutting is continued in the state-owned forests. One of the reasons that Potter County is such a unique place for deer is that the crazy-quilt



pattern of forest and open farm land provides both food and cover in good proportions.

5. *Provide deer with supplemental feed.* This would be in the form of planted food strips, fields left unharvested, slashings made in the woods, and similar methods which would increase the food supply. All of these methods are costly, but are currently in operation.

6. *Do nothing.* Some folks fail to realize that one of the approaches to any problem is not to worry about it. This would not find favor with very many people. Past experiences in many fields of endeavor have shown that a "do-nothing" attitude frequently is worse than a positive attitude.

Which One

Which of the possible paths should we follow? Portions of several of those listed are currently incorporated in the policies of the Game Commission. As scientists, we feel it is our function to search and point out the issues involved, and to outline alternative approaches, but not to venture personal opinions. This is because our personal views are no better and carry no more weight than the opinion of the fellow on the next cracker barrel. Furthermore, if we did this, our personal biases would become mixed-in with the facts discovered through research. On the other hand, we hope that the thinking and facts we have reported in this series of articles will contribute in some small measure to an understanding of the problems involved, and to help those concerned (hunters, farmers, businessmen, administrators) to formulate policies that will result in a successful deer-management program.

IN SUMMARY

In a general way, what did our research bring to light with respect to the deer-management problem in Potter and Monroe Counties?

- Re-emphasized that the deer-management problem is very complex, and that a sensible solution to it requires clear thinking on the part of all concerned.
- That there are four primary groups interested in the management of the deer herd—farmers in deer areas, deer hunters, businessmen in deer areas, and society in general.
- That the conflict between these groups stems from competition for the use of land, and from our concept of property rights which recognizes private ownership of land and public ownership of deer.
- That basically the problem of managing the herd is one of managing land and men, not deer.
- That deer damage to farm crops is fact, not fiction, and that about half of the farmers in these areas incurred all of the loss.
- That deer forage on a wide variety of crops but definitely prefer some crops over others—usually the "expensive" ones.
- That some farmers have been forced to change their farm management practices because of crop damage by deer.
- That farmers kill a number of deer for damaging crops, and for home use.
- That deer hunting is big business in terms of the money deer hunters spend, and that the businessmen and others who serve hunters receive practically all the income while the farmers who suffer the damage receive but little.
- That for every deer killed by hunters in 1951, about $181 cash was "deposited" in these counties.
- That the biggest single hunting expense of hunters was their room and board, with transportation costs next.
- That on the average deer hunters spent about the same number of days in the field whether they got a deer or whether they didn't.
- That most doe hunters also hunted buck.



The Seer of Gobbler's Knob

By [illegible] Gretsinger

FEBRUARY the second is celebrated as "Groundhog Day" in that region of our country extending from the New England states to Georgia and west as far as North Dakota. It is the day set for Mr. Groundhog to emerge from his warm winter quarters to test the weather. If he finds it a sunless day he will stay above ground to get ready for his spring campaign of nibbling at the farmer's fresh green shoots as they come up out of the ground. On the other hand, if Mr. Groundhog sees his shadow on his surveying tour, he will scramble right back to his tunnel and snugly curl himself into his warm winter bed where he will stay another six weeks.

Many farmers, especially in Pennsylvania, still believe in this old superstition and are guided by it in the planting of their crop.

Just exactly how this groundhog legend came into being is unknown, but it is said to trace back to an old Scotch saying:

"If Candlemas Day is bright and clear
There'll be two winters in the year."

Candlemas is an ecclesiastical festival celebrated on the second day of February. Back in the time of the Roman conquests, the Romans brought this Candlemas weather prediction to the Teutons, who interpreted the "second winter" as lasting six weeks. If an animal sees his shadow on Candlemas Day, these old Germans claimed, it will very likely be cold for another six weeks and, therefore, they postponed the planting of their crops.

The early settlers brought the Candlemas legend to this country but why they chose the lowly little groundhog as a symbol of their weather prognostication has puzzled people for years. For the groundhog is a pudgy, short-legged, coarse-haired little rodent, and, certainly, a much more attractive member of his family could have been found as the heralder of spring and weather prognosticator.

There is one outstanding difference, however, between the groundhog and such cousins of his as the squirrel or chipmunk, who are far more attractive in appearance. The groundhog doesn't store up food for the winter, and, therefore, he probably has to come out of his hole earlier than the other members of his family. Instead of busying himself in the fall of the year by foraging and storing up food, he prefers to waddle about in the meadows or in the farmers' fields where he gorges himself on whatever greens are left, and then lazily lies in the sun for hours. In this way he stores his winter's supply of fat and energy within his own body and thus proves to be smarter than his cousins who have to work hard to obtain theirs.

The groundhog has for years been a problem to the farmers, and, undoubtedly, the groundhog tradition began in those early years when our pioneer fathers dreaded his appearance in the spring of the year. Those early settlers found the groundhog here when they arrived, because he is a native American. They found him in the depths of the forests, living in hollow logs or under the network of the roots of trees. They named him "woodchuck," the "chuck" being a term used by some of the British, meaning "pig." It wasn't long before the wily groundhog discovered that he liked the diet provided by the industrious settlers better than the food he had to forage for himself in the woods, so he moved to the meadows and to the vegetable gardens. Thus the Pilgrim fathers, and those who came after them, found themselves confronted with the problem of how to get rid of these pesky little fellows who robbed their apple orchards and ate the hearts out of their cabbage plants.

In spite of the farmers' effort to exterminate the groundhog, he continued to thrive, since the farmer unwillingly supplied him with an abundance of food.

As the hunter develops a respect for the prey that manages to elude

A SIGHT RARELY SEEN BY THE HUMAN EYE, this woodchuck's underground home has been exposed by removing the dirt. The big rodent here is in his warm nest and will soon fall into a deep slumber called hibernation.

Photo by Lynwood M. Chace



him, so these early pioneer farmers, probably, began to respect the sly little woodchuck who could so cleverly outsmart him.

Gradually the groundhog and his habits came to be observed more and a relation between his emergence in the spring of the year and the old legend of a "second winter" if Candlemas Day was "bright and clear," became established.

Once the tradition was established, it passed from generation to generation. In the year 1886 a resourceful and aggressive editor of a weekly newspaper in Punxsutawney, Pennsylvania, saw in the groundhog story an opportunity to advertise his home town. In his paper, the *Punxsutawney Spirit,* he played up the story of the groundhog, claiming that only the Punxsutawney groundhog could properly cast the shadow that would forecast the weather. Soon a group of Punxsutawney citizens got together and began to celebrate the second day of February by going out into the woods and watch this "Seer of Gobbler's Knob," as they called him, emerge from his hole.

Before long this group of men organized as the "Punxsutawney Groundhog Club," and February the second became an occasion for formal celebration. Each year on this day, the worthy members of the club clad themselves in formal attire and early in the morning proceed to a designated spot in the woods, known as "Gobbler's Knob." Here they solemnly await the appearance of their time-honored weather prognosticator.

Whether the honored subject of their vigil casts a shadow or not, the occasion suffices to make a gala day of it. With great pomp and ceremony the Punxsutawney Groundhog-ites celebrate the day which ends in a formal dinner.

February the second is not the only day on which the members of the



Photo Courtesy Punxsutawney Chamber of Commerce

A PUNXSUTAWNEY GROUNDHOG CLUB MEMBER in formal attire solemnly consults the "Seer of Gobbler's Knob."

Punxsutawney Groundhog Club pay homage to their weather prognosticator. They meet again in late summer to do him additional honors. On the second Wednesday of August the active and honorary members of the club get together for their annual Groundhog Outing and Hunt. This is an all-day affair at which the hunt for the groundhog is followed by various activities and entertainments that culminate in a grand feast. Here, among other tempting and savory foods, groundhog meat is offered in delectable dishes, and all of it is served with the trimmings necessary for such a festive occasion.

The prerogative of celebrating Groundhog Day in this gala manner is closely guarded by the members of the Punxsutawney Groundhog Club, as other localities have, from time to time, tried to claim their right to this groundhog tradition.

For instance, the "Slumbering Groundhog Lodge of Quarryville, Pennsylvania," with its organized members and "Hibernating Governors," also lays claim to having the only and rightful weather prognosticator. This group, too, celebrates Groundhog Day in grand style and ceremony. In top hats and long

white shirts, they start out on the morning of February second to await the emergencies of the groundhog to take his rightful position in society.

While, thus, towns vie for the honor of being the originator of the groundhog tradition, the butt of this rivalry continues to harass the farmer. Since the Pioneers introduced the groundhog to the delicate flavor of young vegetables he has become quite particular in his taste. He does not care for dry food—he likes gravy on his potatoes—so he carefully selects only the juiciest and ripest portions of tomatoes, corn, or other vegetables. He proves his ingenuity by digging his holes near a farm-house so that his meals will be provided for.

In this respect the groundhog shows great skill and foresight, for not only is he careful in selecting a site for his home, but he, also, takes great care in the construction of that home. Before he begins digging, he makes sure that there is a mound of dirt or a pile of stones near the entrance so that he will have an appropriate look-out spot. The groundhog has a habit of standing on his haunches on one of these favorite spots for long periods of time; he will stand almost motionless, surveying the territory around him.

As he begins digging, he leaves a small mound of dirt at the entrance but as he penetrates further into the tunnel, he pounds the dirt against the walls of the tunnel, thus insuring a tightly packed interior. The tunnel, which may cover from twenty to forty feet in over-all length, branches off into different directions, but the exit of each usually comes out near a pile of stones, or alongside a hedge, somewhere where he will be hidden from view.

During mating season both male and female will pound a round chamber well within the tunnel and line it with grass and leaves. Here the female will nest her brood of from three to nine blind baby groundhogs, usually in late April or early May. These fluffy little fellows appear at the entrance a few weeks later and soon are seen romping about or sunning themselves within a short distance from their hole. When the mother groundhog senses danger, she lets out a sharp whistle and the little balls of fur scramble back to their holes.

As soon as the weather begins to cool, sometime in late October or November, the groundhog lumbers to his burrow to dig himself in for the winter. He cannot move very fast for he has filled his little round stomach almost to the breaking point. Deep inside his tunnel he rolls up into a ball with his nose tucked under his fat stomach and goes to sleep in his thick, furry skin until he feels the earth warming up above him.

Actually he ventures out several times in early spring to test the weather. If he finds it too cool he retreats to his warm bed. In order, however, to keep up his prestige and to uphold a time-worn tradition, he may oblige the members of the Punxsutawney Groundhog Club, and such other organizations who might want to celebrate in his honor, by uncurling himself on the second day of February, so as not to spoil their planned festivities.

Outdoor Reveries



Deep Winter

By John H. Day

IN FEBRUARY, when the winds blow chill and the countryside appears deserted, the countryman stirs up occasional excitement by exploring old cavities in the run-down orchards of his hiking bailiwick. Many of the little wildlings find snug harbor in the gnarled old trees, waiting out the bitter cold and the driving storms deep in the heart of a Northern Spy, or a Sheeps' Nose or Ben Davis which has seen better days. Persistent delving into such cavities is bound to bring ultimate and perhaps surprising reward.

The little screech owl spends the winter days in such hideouts, or in woodpeckers' holes not far from the ground. When you hear the chickadees and nuthatches scolding, it's a good idea to check up. They often spy out a dozing owl and immediately proclaim the fact at the tops of their voices for the next half-hour or so. All the birds in the neighborhood will come by for an excited peep at the culprit and a noisy share in the hullabaloo, crying "Owl! Owl!" for all the woods to hear.

The actual body of the little midnight mouser is much smaller than the fluffy plumage would indicate. A hole two and one-half inches across is ample for his entrance. When your search is rewarded and you have found your owl moping in his dark retreat, reach in boldly and haul him out.

He won't attempt to bite. He'll probably feign indifference and may even play dead in your hands. But relax your grip on legs or wings and in a flash he is gone; wide-eyed and nastily clicking his beak. If you have found his winter headquarters you can come by the next day and haul him out again since he forms an attachment for a snug bedroom.

It's not wise to put your hand too recklessly into these inviting cavities. A hiss and a sudden nip may reveal that a possum has taken up his quarters there. You can pull him out by his squirming naked tail if you want to watch him "play possum," but he is hardly a glamorous creature and cannot be blamed for being short tempered when his beauty sleep is disturbed.

The curious countryman is often



rewarded for his persistent pounding on dead snags by the sight of a family of cuddly little flying squirrels, routed out of their apartment by his rude hammering below. These lovely, big-eyed creatures of the night will sometimes take off on a short flight, but more often than not they cling motionless to the side of the snag, looking for all the world like a lump of lichen which has grown there.

The black-eyed, white-footed mouse is one of the regular tenants of the knot-hole apartments, both in old orchards and neighboring thickets, and sometimes in the lone sentinel tree which guards an upland pasture. There is no more provident, courageous and completely lovable creature among all the four-footed gentry of our woodlands than this gentle animal. They usually occupy cavities with an entrance too small for the countryman's probing hand, but if you rap smartly on their doorstep they'll come scurrying out to leap to the ground and hustle off to some nearby shelter.

Many other apartment dwellers seek out the tree cavities when February's Hunger Moon stalks coldly through the night skies. The chickadees and titmice, the brown creeper and the nuthatches all sleep in such resorts, returning to the same bedroom night after night. The big pileated woodpecker often comes "home" in mid-afternoon of a gray, blustery day, popping into the deluxe cliff dwelling he has chiseled for himself far up the side of a forest giant.

Sometimes these winter dwellings have been turned into storage houses. The searching hand will turn up half a dozen walnuts in perfect condition, or a handful of acorns, or even a whole pocketful of the seeds of the pokeberry. Once the countryman reached into an opening and pulled out a rusted pipe wrench, which had evidently been hidden there long before and forgotten. Cleaned and oiled and rehabilitated, this wrench has been performing yeoman service, and for years has occupied a place of honor in the tool chest in the cellar.

February has been called the soul's month, for it is the month of awakening hope for the advancing springtide. The countryman does his share of hoping, but while he's waiting he has a lot of fun poking around in old orchards to see what he can see.

The hand of almost every man, however, is against one February phantom. The farmer swears vengeance every time one of his broilers disappears and reaches for his shotgun. The farmer's son matches wits with him on the trapline, seeking his valuable pelt. Hunters condemn him as a "predator," blandly overlooking his priority rating in the scheme of things, and attack him with poison baits, ruthless circle hunts and all the other vicious schemes of mass murder. Eager hounds, bred for speed and stamina, harry him almost nightly on his chosen hunting grounds. And what does Br'er Fox do about all this? He takes it in stride and increases his tribe, laughing up his sleeve at those who would blast him into extinction.

Right now he's in an amatory

mood. Calendar makers should have dubbed February the Moon of the Lovesick Fox, for by Valentine's Day our sly brush-tailed jokester is so badly smitten that he throws his famous caution to the winds. He seeks his lady love by high road and low road, squalling his yearning from starlit headlands and boldly exposing himself in sunlit back pastures.

The first fox I ever laid eyes on was a big red fellow, serenely floating across an upland old-field in the fresh light of early dawn, while a pack of eager hounds labored mightily and noisily a weary half-mile back on his trail. I had carried a mattock and a gunny sack all through the night, for purposes of digging out and capturing the quarry alive.

That was a great many years ago, but I still remember vividly the warm fellowship about the dead-stick fire while the hounds belled joyously out there in the midnight darkness. By daybreak it was another story. Never were mattock and gunnysack such a heavy load! One footsore hound had given up and come in and there was little of the midnight vigor left in the sporadic baying of the black and tan hunters still doggedly at work.

But was Reddy Reynard disconcerted by all this hullabaloo and threatened mayhem? Not by a jug full! By sheer good luck I had posted myself at a vantage point overlooking the wide field which had once been an upland pasture. And there in the morning light he came nonchalantly through a break in the fence, moseyed a few rods into the weedy tangles and calmly sat down to observe how his trailers were doing.



No doubt he had snatched a few restful snoozes during the night, while waiting for the befuddled dogs to puzzle out some hocus pocus he had conjured up to test their mettle. Now he was fresh as a daisy, ready for a few more miles of cops and robbers, while his loud-mouthed antagonists were ready to drop in their tracks. When he was satisfied that all was well on his back trail he bounded in long graceful leaps across the rest of the field and disappeared in a thicket of young growth.

Needless to say we went home without the makings of a "live" race, but I bagged rare game that morning that has never left my mind's eye since. Recently I saw a wild red vixen chained to an outdoor box in a city zoo. A fox in chains is a cringing, sorry sight—far cry from the glorious free creature bounding lightly across the hills, with floating brush seeming larger than the animal itself.

The fox has been quick to turn all changes in his environment to his advantage. He crosses foot bridges over creeks and wet places oftener than the farmer who built them, for he hates to get his feet wet. He seems to know that gasoline fumes on highways and the acrid locomotive odors on railroad tracks cut down his scent and does not hesitate to direct his night patrols alongside these thoroughfares.

The countryman admires the bravery of this wild freebooter in holding his own against the encroachments of civilization and the persecution of mankind.

Why Field Trials

PART II

By Horace Lytle



IN OUR previous article we outlined the extent of current field competition for sporting dogs of different breeds. Now we shall confine ourselves to field trials for Pointers and Setters. Not only are these the oldest in this country, but they are perhaps the most extensive —and they certainly involve the greatest variety of type.

It all started back in 1874 when the first trial was run Oct. 8th near Memphis, Tenn. This was just eight years after the first such trial had been run in England. The Setter dog, Knight, won America's initial field trial, with a total of 88 "points" out of a possible 100. Which calls for comment on judging. The following point-scale prevailed: 30 for nose; 20 for pace and style; 20 for training; 15 for style and stanchness on point; 10 for backing; and 5 for roading.

But you can't properly judge dog performance by any adding-machine method. Realization of this fact led to the Heat System of finding winners. Dogs were drawn and braced the same as they are today. But under this system each dog was judged only against his own bracemate. The heat winners were then re-braced and re-run until but two finalists were left. And the dog judged to win this final brace was declared the winner of the stake. This was exactly the same procedure as a match-play golf title is achieved today. It was a vast improvement over the Point System for field trials and worked out rather well so long as trials were few and far between. As the sport grew in popularity, however, and more and more trials kept springing up, it was evident that to allocate to any one trial the time required by the Heat System *took too long.*

The answer seemed to be the Spotting System, which is still in vogue today. Each dog is running against the field; and the judges "spot" out the winners, based upon quality of performance. If they do not "see" them with sufficient clarity at the end of the first running, the high dogs are called back in a second series to fight it out. This Spotting System has stood the test of time. Its only weakness—if any—is that upon occasion there may arise some difference of opinion. But the only opinion that counts is that of the judges. They constantly seek to glorify the "class" dog; the one whose gait shows greatest grace and rhythm; whose style on point shines forth; whose speed and range

show avid eagerness in search for game; whose "bird sense" directs his efforts to proper objectives; whose nose proves sure; and (in an All-Age) a dog that proves true to his training.

There's an old saying that "The quality of the performance overshadows the frequency of the occurrence." This simply means that one superb find, consummated with class, may land a dog at the top of a stake over dogs with more game contacts, but whose work lacks sparkle. This is as it should be—if not carried to an unwarranted extreme. We recall a trial some years ago when the outstanding "class" dog, with one find, was dropped to second. Later, one of the judges said: "We just couldn't overlook those *seven* finds of the dog we named first." Which was logical. After all, we are seeking *bird* dogs. The talent to find game must rate as one form of "class." Even so, a dog scoring seven finds to another's one must not be otherwise *too far* down the scale-of-class—or he should not win. Sound balance must govern all things; even the judging of field trials.

Pennsylvania was the breeding ground of grouse trials—and top flight grouse dogs. Of late years, Michigan has been forging forward strongly from both standpoints. This is well, and good for the game. But Pennsylvania has never been outshone; and this writer predicts never will be. Those good grounds near Marienville will continue to play host to leading grouse trials for many years to come—including, every so often, the Grand National itself You just can't beat a truly great grouse dog! The writer still contends that he never saw a finer single piece of bird work than delivered by Hall's Black Rocket in the Grand National

GRAND NATIONAL GROUSE DOG CHAMPION Hall's Black Rocket with his handler, Gene Galloway. Owned by Mrs. Acton Hall, of Piqua, Ohio, this entrant in the spring championship of 1947 is the only grouse dog ever to hold three championships.

Photo by Hal H. Harrison



of 1947. True, this occurred in Michigan, where the stake was run that year—but both the dog and his handler were from Pennsylvania. It so happened that one of the three judges favored Black Rocket for that title; but his two associates did not so "see" it. Even so, this grand Setter won grouse Championships three times!

Certain pheasant trials are run in Pennsylvania, the Indian Gap courses, near Harrisburg, being especially favored of recent years. But, in the main, Pennsylvania is a grouse trial state. Some years ago, however, and for a number of years, significant pheasant trials were run annually at Conneaut Lake. These were conducted by the Wild Life League and always drew good patronage. Perhaps one reason was that the trials were scheduled to start on Labor Day and there were no conflicting dates, as this was a little early for these parts. It was too often far too hot for the dogs. Possibly that may have been a factor in the Wild Life trials finally being abandoned. Many have missed them, however, and the writer is one. We judged there three-years-in-succession, from which we still carry many fond memories.

There was a time, though, when Pennsylvania ran significant quail trials. The venue for these was Carmichaels. The inaugural Free-For-All was run in 1913, won by Paliacho, one of the foremost English Setters of his day. His handler was Bill Beazell, a native Pennsylvanian, who became one of the best known professional handlers on the major circuit. Beazell had his chief success with Derbies, 2-year olds, and he was a stickler for Setters. But, although he never won with older dogs so consistently as with youngsters, it can never be forgotten that he won the National Championship of 1915 at Grand Junction, Tennessee, with La Besita, a great bitch that is still known as "the last of the great Llewellins."

In writing of field trials, even for exclusively Pennsylvania hunters, it seems but proper to give some idea of the extent and expanse of the sport. Aside from the grouse dogs, a high percentage of those destined to run in trials are sent to the Canadian prairies each summer with professional trainers. There are several advantages. Nowhere else can so much be accomplished during summer months. Young prairie chickens lie well, and do not flush far, so that it is not too uncommon to work young dogs on one covey of chickens for a couple of hours at a time. Early mornings are cool and good working-daylight lasts up to nine at night. Handlers start work of a morning soon after it's light enough. They take a rather long siesta during the heat of mid-day—but make up for it by working late. It's a rugged life—we've been there, and know. The prairies are no place for grouse dogs, though. Many of them might develop more range than would be good in the woods.

In September, as the training season is drawing to a close, there are several prairie trials—even two or three Chicken Championships. Too, the Derby stakes for young dogs are always featured on the prairies. After the trials, handlers start pulling out and heading for home—and a new field trial season will be under way in The States.

Yes, there is a cost to Canadian training, running from $150 to $200. So it is expensive to campaign a dog on the major circuit. But so is trap shooting costly—*very*. Yet, valuable as prairie training is admitted to be, it cannot be considered as an absolute necessity. Tennessee Zev won the Quail Futurity in 1947 and he never got closer to Canada than Mississippi! So there are no such words as "never" or "always" or "must."

Too, an owner—especially if he be young, vigorous and full of enthusiasm—can accomplish wonders working



Photo by Hal H. Harrison

PORTRAIT OF A CHAMPION, Sam L's Skyhigh owned by Sam R. Light, of Punxsutawney. This famous setter dog typifies the Pennsylvania slogan: "Where the class dog originated."

with his own dog anywhere. All he needs is suitable grounds, and game. The writer's first field trial win was with a Setter bitch that he trained himself all-the-way. We have never owned another to which we have ever gotten quite so close. And that very closeness, and the mutual understanding between us, was the mainspring back of our successes in competition—of which we had our full share. We have had several dogs since (two such as this is written) that field trial men would rate as having better winning potential. Yet not one of them all have we ever been able quite to fully to *trust*—right up to the last ditch. So if you are fixed so that you must train and condition your own dogs, that need be no handicap—it may even be all to the good! No professional is ever apt to get so close to one-out-of-many dogs, as any worthy master can get to just one of his own. You should be able to reach such a dog's *heart*—which is the shortest possible cut to his *head*.

From September through April there are trials all-over-the-map, of one kind or another. There are Puppy Stakes, Derby Stakes, All-Age Stakes, and Gun Dog Stakes—the last sometimes called Shooting Dog Stakes. The Amateur Field Trial Clubs of America now even sponsor a National Amateur Shooting Dog Championship. Among this wide assortment of competition there are trials to appeal to any person and/or any purse. The possibilities are so wide and so varied that we do not have space to elaborate. We shall have to confine ourselves to a brief mention of some of the outstanding Fixtures.

In October we have the American Field Pheasant Futurity (for Derbies). Also an Open Pheasant Cham-

pionship; plus the National Amateur Pheasant Championship. Following, in early November, there is the American Field Quail Futurity—the most popular of all Derby stakes. The states of both Arkansas and Texas have Open Quail Championships. The Continental Club offers both All-Age and Derby Open Championships. and so does the National Free For All, which follows closely on the heels of the Continental. And, following the Free For All, there is the annual National Championship at Grand Junction, Tenn.

We mention these major stakes mainly to acquaint you readers with what-goes-on. There are any number of Open Stakes—many of them of great importance, and profitable for the professionals who may win them. But the backbone of the game is, and always will be, the many, many smaller trials which dot the country from one end to another. It is in these that the novice should start; and it is these that offer constant fun, frolic and thrills for amateur owners. But we must not skip one other type of Championship. The Amateur Field Trial Clubs Of America has divided the country into nine Regions; and each of these regions offers a Regional Championship. Winning any of them carries Championship title for your dog. Also, incidentally, any Regional Champion may start in a National Amateur Championship without entry fee—no small honor!

In Pennsylvania, however, the main game is the grouse—than which no finer bird flies! And to Pennsylvania must go the greatest credit for the inception, inspiration and promotion of grouse trials. Pennsylvania grouse trial standards have always been held high. For one thing, the title of Champion was always withheld unless the judges might find a dog they deemed *worthy* to wear the crown. This has meant much for the good of the game through the years. A still-used Pennsylvania slogan runs thus: "Where the *class* dog originated." There has never been (to the best of my knowledge) any Pennsylvania

THE GALLERY AWAITS THE "BREAKAWAY" at a spring meeting of the Pennsylvania Field Trial Club near Marienville in Forest County.

Photo by Hal H. Harrison





Photo by Hal H. Harrison

FIELD TRIAL JUDGES, usually mounted on horseback, "spot" the winners basing their decisions on quality of performance. They constantly seek to glorify the "class" dog.

Grouse Champion ever named that did not fairly exude *class*. Dogs like Nugym—and any others you can name that have ever been thus crowned. I well remember Champion Gayboy, and seeing him run two or three times in Pheasant trials. I recall on one occasion, after seeing him run in open country, expressing a slight bit of uncertainty over his title. "Good gracious," exclaimed the friend to whom I chanced to be speaking, "that's only because you've never seen him in the *woods!*"

Which was but as it was. Thinking back on it now, we doubt if we have even seen a Pennsylvania grouse trial winner that was not *class* all over—and all-out.We remember back to many years ago when we saw the judges name a Pennsylvania Setter bitch for second money in the Thousand Dollar Open Free For All stake at Medford, N. J. The famous field trial reporter, the late A. F. Hochwalt, was there and approved of the placement. I asked him if he didn't think she lacked sufficient *range* for a stake like that. And Al Hochwalt's answer taught me something that day, long ago, when he said: "Speed and range are one phase of *class*—but not *all* of it, by any means."

The grouse trials, and Pennsylvania in particular, have another claim to distinction. They have done more to keep the Setter breed "up there" than any other influence in the country. Pointers have forged to the front in other trials—but the Setters still reign supreme when it comes to grouse. Oh yes—I know the last Grouse Grand National was won by a Pointer from Pittsburgh, and a good win it was. But year-in-and-year-out, Setters still out-win all others in the woods. May they keep marching on! Another thing that is good for the game is to keep alive real competition between the breeds. Grouse trials are doing just that to an extent that no others are.

So I say to all you good hunters of Pennsylvania, especially those who feel a certain void after open seasons, so far as full-fill of enjoyment of your dogs is concerned, look further into the matter of the trials. They will open for you a wide and wonderful vista of new and the finest kind of pleasure. In our former article we gave you an idea of the extent of the offerings, covering almost any kind of hunting dog you may favor. Get into the game—and you'll live to thank us for the urge.

Hunting In Pioneer Days

Hardy Settlers of the Pine Creek Region Risked Their Lives to Get Meat.

By William Boyd

HUNTING practices of pioneer days in the game-infested Pine Creek region of Pennsylvania is vivdly described by Philip Tomb, one of the earliest settlers in this outpost of civilization for whom Tombs Run was named.

Judging from the adventures which he describes in a book which he published almost a hundred years ago, Tomb was a hardy individual who took to the tough life of a pioneer with great relish. Indeed, one had to be of sturdy fibre to get along in post-Revolutionary War days. Tomb was born only six years after the colonies fought for and won their independence from England.

It was in 1791 that Tomb's father purchased land six miles from the mouth of Pine Creek and established a little community which became known as Tomb's Run. At that time, Tomb wrote, game such as bears, elk, deer, and wild turkeys were very plentiful.

"I had two brothers old enough to hunt when we established our home in the wilderness," Philip Tomb said as he began his book. "We had no gun but an old musket which my father had used in military training. In the morning we would frequently find the deer feeding within 20 rods of our house. Sometimes we would see a drove of elk, 15 or 20 in number, crossing the river. At other times we often saw bears traveling back and forth.

Philip Tomb's description of the capture of a wild elk alive is almost incredible, but he tells it without heroics and in a matter-of-fact way which is proof that he did not consider the feat anything remarkable.

It all came about through a night of rough fellowship in Irving Stephenson's tavern at the mouth of Pine Creek where the conversation turned to elk hunting. In the course of the conversation Stephenson asked the elder Tomb if he thought he



could catch a live elk. Jacob Tomb reckoned he could, whereupon the tavernkeeper offered to wager him 250 pounds he couldn't do it.

Stephenson pledged a house, lot, and tanyard approximately worth the total of the wager, and Tomb put up $750 worth of timber and two satisfactory sureties.

The elk was to go between 14 and 16 hands high, and was to be caught alive and taken home in less than four months. Jacob Tomb wanted the period to extend into February so he would be certain to have a tracking snow some time during the period of the wager. Virtually all of the frontiersmen appeared to think



Tomb had made a foolish bet and would certainly lose his lumber.

It was early in January of 1800 that Tomb prepared for his hunt. He took two of his boys and a man named Maddock, a horse, four dogs, and ropes sufficient to hold an elk. They traveled eight miles over the ice to Morrison's home and asked him to participate in the adventure, but Morrison declined offering, however, the use of his well trained elk dog. Now let Philip Tomb take up the narrative:

"We accordingly started out on the east side of Pine Creek, up a small stream called Trout Run (known to this day by that name) which we ascended seven miles. We finally came to a spot where the signs in the snow indicated that six or seven elk had been feeding. We decided to camp there for the night and as the weather was very cold and the snow had begun to fall we all set to work with an ax and two tomahawks to build a shanty of hemlock boughs. The wind continued to blow violently the next morning and the snow was coming down heavily, so we concluded we had best remain where we were for the time being.

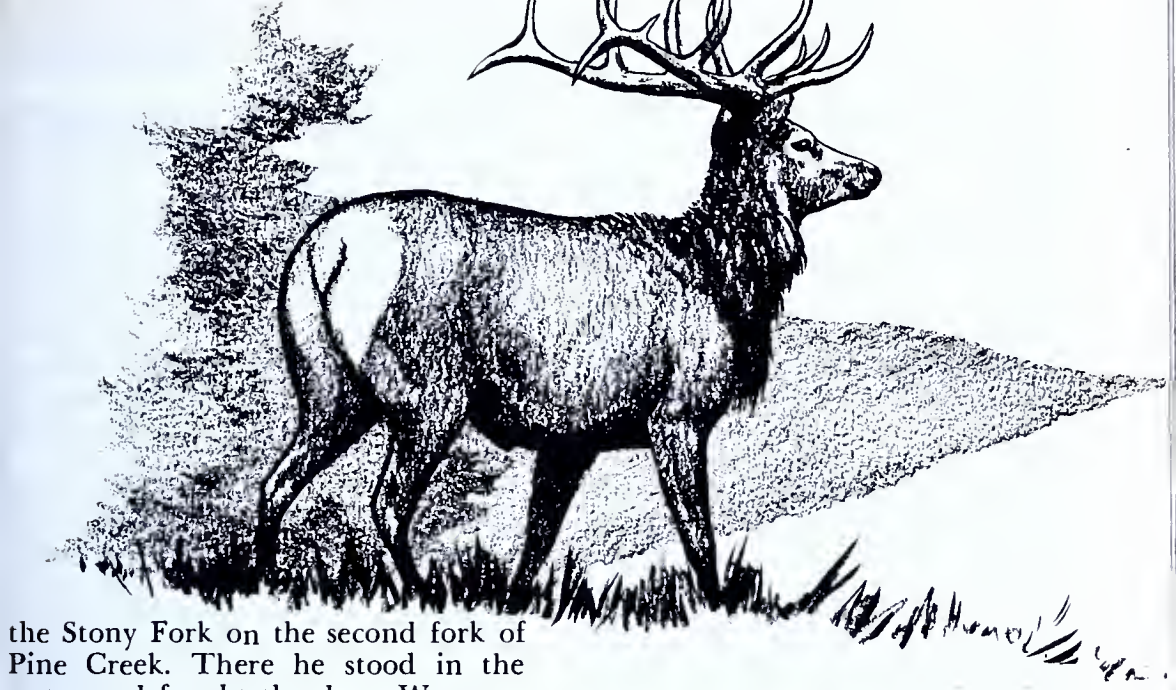
"The snow had covered all the elk tracks and, the weather being clear and cold, my father proposed that two of us should remain and build a shanty and the other two start out, each on different routes, to look for elk. My father and older brother started out, while Maddock and I remained to build a shanty. The others came back about sundown. We had our shanty completed, my father acted as cook, and in our snug walls of hemlock boughs we forgot the toils and perils of the chase.

"My brother reported that he had seen tracks in a muddy place where the elk had been the night before. The next morning we started about sunrise and proceeded to the place where Jacob had seen the tracks. We found the elk had taken a southern direction. When we had followed them about nine miles we came to a place where they had been feeding, and the tracks were quite fresh. They had been gone, we judged, about two hours. We thought it best not to disturb them that day, as it was nearly night. We accordingly made an encampment and stayed there that night.

"The following morning we started about sunrise and after following the tracks about three miles and a half, we found where the elk had laid down the night before. About a mile farther on we discovered two elk, both bucks, one a little larger than the other. We tied up all the dogs but one, and let him chase them. The larger one stood and fought the dog, but the other, as soon as he saw us, turned and started off in another direction, and we released another dog.

"As the second dog came up, the elk started off, taking a southeast course to Pine Creek, which he crossed. We all started after him and followed as fast as possible for 12 miles, when we met the dogs coming back. It was now 4 o'clock in the afternoon, so after going two miles farther, we encamped for the night, taking care to secure the dogs. The next morning we started before sunrise and after going about a mile, came to the place where the elk had fought the dogs and beat them back. After a mile farther he had begun to feed and we found the bed where he had stayed all night.

"We kept on until we came in sight of him and let the two best dogs go. The elk kept a southeast course about eight miles, the dogs pursuing very closely, when he turned and fought them, as we judged, about a half hour. He then struck a northeast course to cross Pine Creek. He ran some four miles farther, when he again turned and fought the dogs. From there he took a north course and ran about eight miles farther to



the Stony Fork on the second fork of Pine Creek. There he stood in the water and fought the dogs. We came to within two miles of that place and encamped for the night.

"About midnight the dogs came back to camp. The old elk dog appeared very uneasy, looking wistfully in the direction from which they had come, from which we concluded that the elk could not be far off. In the morning we started again, and soon came to the spot where the dogs had held the elk at bay in the water for about four hours. After the elk left the water he had gone about two miles and commenced feeding. When we had proceeded a short distance, we found the elk lying down. He sprang up as we approached, and stood looking at us until we were quite near him. We then let loose the two dogs which had not run the day before.

"They pursued him very closely about six miles and stopped him until we came up. We then let the other dogs go, thinking he would go to some rock where he could ward off the attack of the dogs. He, however, took a southern course toward Big Pine Creek, and after running about four miles, got upon a rock on the side of the hill. But here he was so warmly attacked that he could not maintain his position, and so he started on again, ran about four miles farther, and backed up against the root of an upturned tree, where he again stood at bay.

"We endeavored, by standing on the trunk of the upturned tree, to throw a rope over his horns, but did not succeed. He started again, taking a southerly course toward the second fork of Big Pine Creek, and stopped on a large rock. At sundown we stopped within two miles of him, and one of the party went forward a short distance and discovered where he was by the barking of the dogs. We decided to proceed, as it was a bright, moonlight evening, and reached the rock about 8 o'clock. We built a large fire within a few feet of the rock, and about 11 o'clock we made the dogs come and lie down by the fire.

"At 2 o'clock the elk lay down on the rock and began chewing his cud. In the early morning he arose, stretched himself, and walked around the rock. We cooked our breakfast, and all hands prepared for the coming contest. At 8 o'clock we began to maneuver. We tried at first to throw the rope over his head, but he jumped from the rock and broke away. We then let all our dogs after him, and fired our guns to encourage them. He ran about half a mile but

the dogs pursued him so closely, and closed in on him so often, that he wheeled about and returned to the rock.

"We decided to divert his attention to the lower side of the rock by keeping the dog there and throwing sticks and stones, while father slipped unobserved to the upper side and, with a pole about 20 feet long, threw the noose over the elk's antlers. All hands went to the upper side of the hill, and fastened the rope around a tree, making an ineffectual attempt to draw him from the rock. We next set the dogs on him behind, which drove him to the edge, when we gave a sudden pull and brought him off the rock, about four feet high at that point. He plunged around and became so entangled that he had only ten feet of play.

"We placed another long rope upon the other antler and carried it down the hill its whole length, tied it, and then loosed the first one. Two of the party drove him down the hill as far as the rope would allow him to go. We continued in this manner to fasten the ropes alternately until we had worked him from tree to tree down the hill. We found this slow and difficult as he was constantly becoming entangled, because of his struggles, in the trees and underbrush. So we unloosed both ropes and placed two men to each rope and had one dog keep him going. When he went too fast, we could check him by snubbing the rope around a tree. He walked very gently until he reached the creek, which was covered with ice. This was about three quarters of a mile from the rock where he was captured.

"We fastened one rope across the creek, which was about three rods wide, keeping the other in our hands, and drove him upon the ice where he slipped and made several ineffectual attempts to regain his feet. We all went to the other side of the creek and dragged him across. As soon as he gained a footing he sprang up and walked up the hill toward us. We then fastened the ropes in opposite directions to give him no play. As it was about 4 o'clock in the afternoon, we determined to let him remain here until we could bring a horse from Morrison's to take him home.

"We cut and placed before him some elkwood browse, which he ate, and my brother and Maddock went for the horse, leaving my father and myself to watch our prize. When they returned at 8 o'clock the next morning we had to cut a road through the underbrush about one mile to Big Pine Creek. We secured our elk close up to a tree and placed a large rope about 40 feet long over his antlers down near his head and then tied a smaller rope to the upper part of each antler. We then hitched the horse to the large rope, each man taking a small rope behind. Then one of the hands started the horse.

"When the elk first got under way he plunged about considerably and became entangled in the rope, but one of us drove him back and we took a fresh start. At the end of about three hours we reached Big Pine Creek one mile from the place of starting. Here we met with no further obstruction, as the ice was slightly covered with snow and had thawed a little, so that the elk found good footing. We had no difficulty in traveling the five miles to Morrison's, where we placed our captive in a stable.

"This was the first elk caught alive full-grown along the waters of the Susquehanna. He was 16 hands high and his antlers were five and a half feet long, with 11 branches."

. . . *The End*

A Sportsman's Guide To . . .

Venango County

Forty-Seventh In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Venango County covers 436,672 acres, of which 239,316 acres are forested. Publically owned land totals 17,738 acres, including 16,082 acres of State Game Lands.

Transportation

Railroad transportation is furnished by the Pennsylvania, the New York Central, and the Erie lines. The 28th Division Highway (U. S. 322), the William Flinn Highway (Pa. 8), and other important routes traverse the county, which has 428 miles of improved State highways.

District Game Protectors

District Game Protector Clyde W. Decker, 27 Gilfillan Street, Franklin (Phone Idlewood 2-4833) is assigned to the following townships: Plum, Cherry Tree, Oakland, Sugar Creek, Jackson, Canal, and French Creek.

District Game Protector Leo E. Milford, 208 Seeley Avenue, Oil City (Phone 5-4363) is assigned to the following townships: Oil Creek, Allegheny, Cornplanter, President, Cranberry, and Pine Grove.

District Game Protector Edward M. Borger, R. D. 2, Polk (Phone Franklin—Idlewood 7-2745) is assigned to these townships: Mineral, Victory, Sandy Creek, Rockland, Richland, Scrubgrass, Clinton and Irwin.

The Game Commission's Northwest Division Field Office is located at 422 13th Street, Franklin (Phone Idlewood 2-5610), Temple A. Reynolds, Supervisor.

Fish Warden

Julius Ahrens, Star Route No. 2, Oil City.

Industry

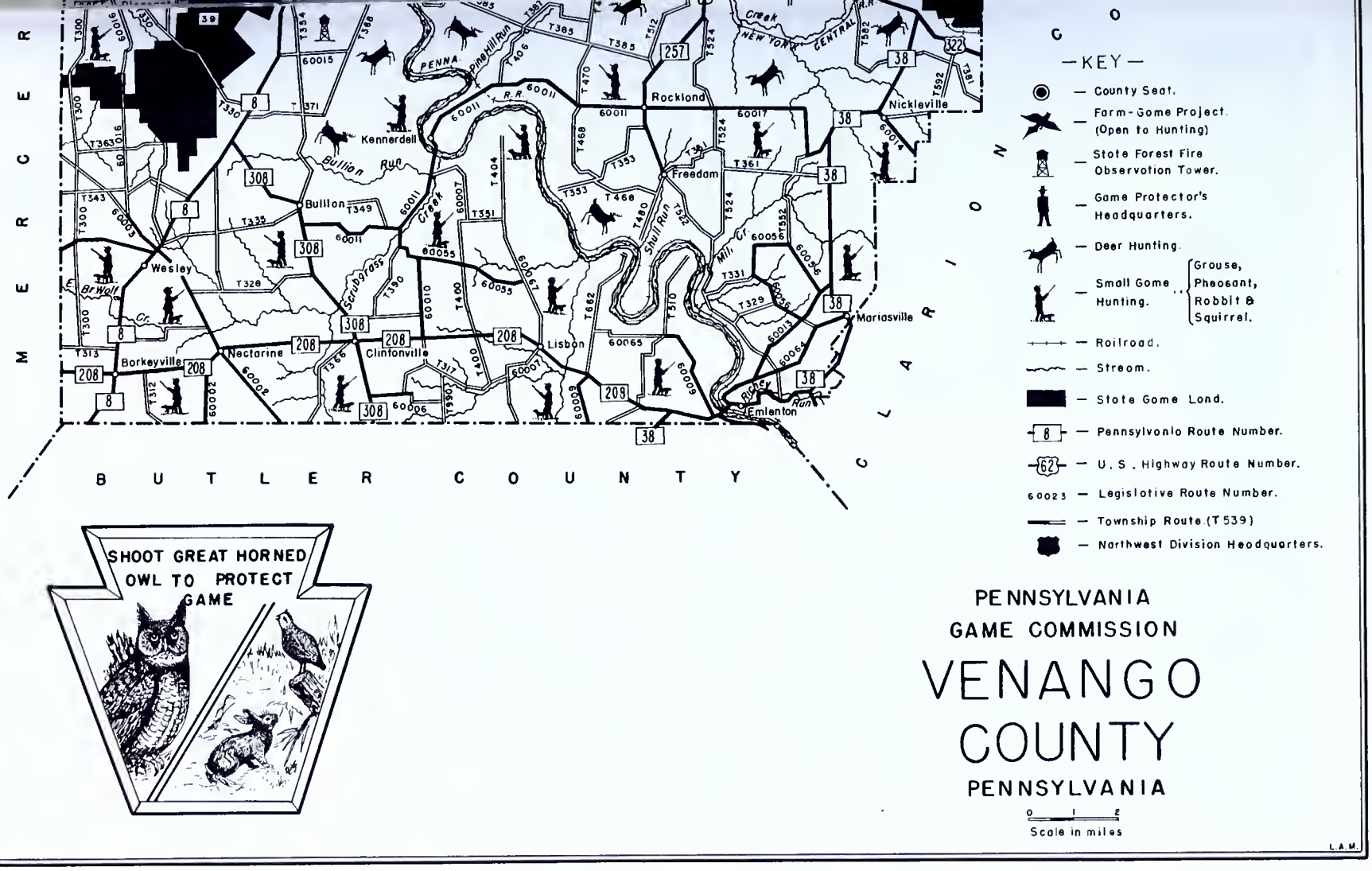
Ever since the Drake Well was drilled just within the Venango county line near Titusville in 1859, crude petroleum, its products and by-products, have dominated the industrial life of Venango county. Today oil and the products of the refineries at Rouseville, Emlenton, and Reno have the greatest value of any of the county's products. Natural gas, limestone, glass sand, molding sand, and gravel are also important natural resources. Oil City, Franklin and Rouseville manufacture metals and metal products including oil well supplies, railroad supplies, pumps and valves, machines and parts, boilers, tanks, stacks, and drums. Cornplanter township has a large production of glassware.

History

Venango County was formed in 1800 from Allegheny and Lycoming counties. Reduction of the area was made in 1839 when Clarion County was formed and again in 1866 when Forest County was organized. The name of the county is a corruption of the Seneca Indian name of French Creek, the principal stream flowing from the northwest.

Like other counties in this section, Venango was settled slowly due to the Indian Wars and subsequent disputes regarding land titles. The area


C O U N T Y
WARREN COUNTY
CRAWFORD
U N T Y
F O R E S T. C O U N T Y
Diamond
Chapmansville
Breedtown
Pleasantville
Bradleytown
Wallaceville
Prather Corners
Wilson Mills
Sunville
Cherry Tree
Petroleum Center
Demseytown
Kaneville
Plumer
Cooperstown
Hannasville
Rouseville
Walnut Bend
Henrys Bend
President
Wyattville
Utica
Oil City
Sugar Creek
Badine Corners
Franklin
Nicklin
Niles
Unionтown
Seneca
Coal Hill
Hemlock Creek
Reese Run
Porcupine Run
Knights Run
Norwich Run
Wolf Br.
Horse Ck.
Twomile Run
Foster Run
Warden Run
Beatty Run
Stewart Run
Musk rat Run
Pithole Creek
Oil Creek R.R.
Lake Creek
Sugar Cr.
E. Br.
Prather Cr.
Little Sandy Cr.
ERIE R.R.
PENNA. RIVER
ALLEGHENY
PENNA.
R.R.


MERCER
CLARION
BUTLER COUNTY
Rocklond
Nickleville
Kennerdell
Freedom
Bullion
Wesley
Mariasville
Nectarine
Clintonville
Lisbon
Borkeyville
Emlenton
Bullion Run
Scrubgrass Creek
Shull Run
Mill Cr.
Richey Run
Pine Hill Run
PENNA. R.R.
NEW YORK CENTRAL R.R.
Creek
Br Wolf Cr.
SHOOT GREAT HORNED OWL TO PROTECT GAME
— KEY —
— County Seat.
— Farm-Game Project. (Open to Hunting)
— State Forest Fire Observation Tower.
— Game Protector's Headquarters.
— Deer Hunting.
— Small Game Hunting. Grouse, Pheasant, Rabbit & Squirrel.
— Railroad.
— Stream.
— State Game Land.
— Pennsylvania Route Number.
— U. S. Highway Route Number.
60023 — Legislative Route Number.
— Township Route (T 539)
— Northwest Division Headquarters.
PENNSYLVANIA GAME COMMISSION
VENANGO COUNTY
PENNSYLVANIA
0 1 2
Scale in miles
L.A.M.

was first claimed by the French in 1749. In 1753 George Washington was sent by the Governor of Virginia to learn what he could of the French forts in Northwest Pennsylvania, a territory claimed by the colonies of Pennsylvania and Virginia as well as the French. In 1754 the French built Fort Machault at the site of present Franklin, holding it until 1759. Later the English built Fort Venango a little to the north of this site but in 1763, during Pontiac's War, the Indians burned Fort Venango and killed all the garrison. Finally, in 1787, Americans under Captain Jonathan Heart built Fort Franklin and garrisoned it until 1796. Another fort, "Old Garrison," was then constructed in a more strategic position overlooking both French Creek and the Allegheny river. It was occupied by United States troops until 1799 when the Indian danger no longer existed. The building served as the county jail from 1805 to 1819 but was destroyed by flood waters a century ago.

First commercial use of oil by the settlers was as a medicine, known as "Seneca Oil." When Colonel Drake's Well gave 25 barrels a day in 1859, the demand was for illumination purposes. The first pipe line was laid in 1862. The famous oil boom town of Pit Hole once stood seven miles northwest of Oil City. In 1865 it expanded from a single farm house to a population of 15,000 in five months. Now it is only a vacant field.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area stocked) include:

TROUT: Cherry Run, Pleasantville, Rt. 27, 3 mi.; Hemlock Creek, Venus, Rt. 157, 1 mi.; Horse Creek, Oil City, Rt. 8, 3 mi.; Mill Creek, Emlenton, Rt. 38, 3 mi.; Pithole Creek, Pleasantville, Rt. 27, 8 mi.; Porkey Creek, President, Rt. 62, 3 mi.; Prather Creek, Cooperstown, Rt. 427, 3 mi.; Sandy Creek & branches, Polk, Rt. 62, 16 mi.; Scrubgrass Creek, Kennerdell, Rt. 965, 6 mi.; Little South Fork, Scrubgrass Creek, Emlenton, Rt. 208, 2 mi.; Sugar Creek & E. Branch, Cooperstown, Rt. 427, 16 mi.; Two Mile Run, Franklin, Rt. 8, 8 mi.

BLACK BASS: Allegheny River, Reno, Rt. 8, 10 mi.; French Creek, Sugar Creek, Rt. 322, 13 mi.

Recreation—Hunting

Venango County provides a wide variety of hunting, both for deer as well as small game species. It contains good opportunity for rabbits and ringnecks, excellent woodcock hunting, fairly good grouse hunting, and good quail hunting. Raccoon chases also offer good sport. A good start has been made by wild turkeys although at present their range is limited. Cooperative Farm Game Projects are located near Franklin and Springville (Number 137 covering 2,990 acres), Cooperstown and Sugar Creek (Number 182 covering 22,658 acres) and Utica or Polk (Number 192 covering 5,327 acres). Four tracts of State Game Lands, also open to public hunting, are found as follows: Number 96, covering 3,475 acres near Cooperstown; Number 39, covering 7,932 acres near Springville and Pearl; Number 45 (in part), containing 2,615 acres near Mapleshade; and Number 47, covering 2,060 acres near Oil City.



Limit Bag Without a Shot

NORTHUMBERLAND COUNTY—Jimmie Ritchie, son of Frank Ritchie, a cooperator on Farm Game Project No. 122, perhaps sported the best record for the opening day of the small game season. Jimmie bagged two ringnecks without firing a shot. Playing in the yard, he spotted a ringneck drop well inside of the safety zone. He walked over and picked up the dead bird. No hunters showed up to claim it so he took it in the house. In the afternoon he spied a ringneck run into a corn shock. He walked down and found another dead bird. Moral for young farm boys—stay at home and keep your eyes open!—District Game Protector Clyde E. Laubach, Elysburg.



Turkeys Turn Tables On Trick Shot

CAMBRIA COUNTY—One day during the past small game season, Mr. Fred Soisson of Hastings, noted trick shot in this area, took the younger members of his family on a day's hunt in the vicinity of Game Lands No. 108. After hunting most of the day, the youngsters returned to the car, ahead of Mr. Soisson. As they approached their car they noticed peculiar movements on the hood and trunk of their auto. Closer examination showed one wild turkey on the hood of the car and one wild turkey on the trunk of the automobile. In calling for their dad, they scared the birds away.—District Game Protector G. A. Miller, Barnesboro.

Western Intruder

GREENE COUNTY—Grover Kughn, veteran trapper of Oak Forest in Greene County, was checking his traps on the morning of November 28, when he discovered a peculiar looking animal in one of his traps. Mr. Kughn has trapped for 55 years and was much surprised to learn that he had caught a coyote. The animal was caught in a set made in a small stream for mink.—District Game Protector W. E. Cowden, Waynesburg.

Beginner's Luck

CLEARFIELD COUNTY—I have checked some of the most beautiful wild turkeys in this district during the past small game season that it has been my privilege to check. On November 27, I checked a male turkey killed on State Game Lands No. 77, that weighed twenty pounds and the proud possessor of that turkey stated, "This is the first time I ever hunted turkeys."—District Game Protector Claude B. Kelsey, Troutville.



Pheasant's Bill-of-Fare Panics Plucker

MONTGOMERY COUNTY—On November 9, 1954, my uncle John Yannes of Freeland, went hunting for a few hours in the surrounding farmland and shot his limit of cock pheasants. That evening after dinner was over, he was cleaning his pheasants in the sink, with the help of my mother-in-law. All of a sudden she screamed and put one of the birds quickly back on the tray. I went out to see what happened. I found that she was cutting open the craw on one of the birds when she saw a snake curled up in the craw. I looked and found that the snake really looked like it was still alive, but when I took it out, it naturally was dead. It was a common three stripe garter snake and it measured eleven inches long. Evidently, the bird just ate the snake, prior to its being shot, because digestion had not yet started. From now on, I guess I will have to clean my own pheasants, because I don't believe I will ever get any more cooperation from my wife or mother-in-law.—District Game Protector William Shaver, Mainland.

He's A She

WARREN COUNTY—Dick Huling of Irvine, killed a deer the first day of the season. It was a Y and had only one horn. The other side of the skull was perfectly smooth. Dick was quite surprised when he went to dress his buck to find out that it was a doe. It still had milk in its bag. The antler was about six inches long and was still in the velvet. It had started to harden and there were indications that it had started to polish the velvet from the antler.—District Game Protector William Overturf, Youngsville.

Groundhog Protection

COLUMBIA COUNTY — I recently had a complaint that groundhogs were eating watermelon vines so I advised the farmer to put lime around the plants. I talked to him sometime later and he said he put lime at the entrance to all groundhog holes around the melon patch and has not had any trouble since.—District Game Protector Lewis H. Estep, Berwick.

Snake Game

BUTLER COUNTY — Deputy Charles Thompson of Boyers, related the following story to me: On November 1, 1954, Raymond Thompson of Grove City, while hunting small game in what is known as "The Glades" near West Sunbury, was startled by the sound of a rattlesnake. Upon investigation Mr. Thompson discovered a massasauga rattlesnake several feet from where he was standing. It was coiled, ready to strike and seemed very active even though it was a rather cold day. He disposed of the rattler and changed locations. —District Game Protector Woodrow E. Portzline, Slippery Rock.



'Twas Only a Wildcat

SUSQUEHANNA COUNTY—For some years past residents and hunters in the Pig Pen Run section have steadfastly maintained that there were some mighty "uncommon" animals on the prowl, but these reports were passed off as hunters' tales. Thanksgiving week the Chuck Arthur hunting party dispelled all doubts by returning from Pig Pen Run with a handsome bobcat specimen. While wildcats are not rare in Pennsylvania, they certainly are uncommon in Susquehanna County and it has been a long time since the last one was killed.—District Game Protector Donald G. Day, Susquehanna.

Baseball Game Gets Geese

YORK COUNTY—On October 14, 1954, the day before duck season, the Borough of West York had some very unusual visitors. A flock of Canada geese, about 23, landed on the parking lot of the York Fair Grounds. There was a ball game on the same lot that evening and several of the boys attempted to chase these geese, but they would not leave. The geese had landed about 4:30 p. m. and after resting for about two hours they again headed south. The only explanation for the geese landing in town in my opinion was the heat. It was a very warm day and I believe the geese were exhausted.—District Game Protector Earl Geesaman, York.

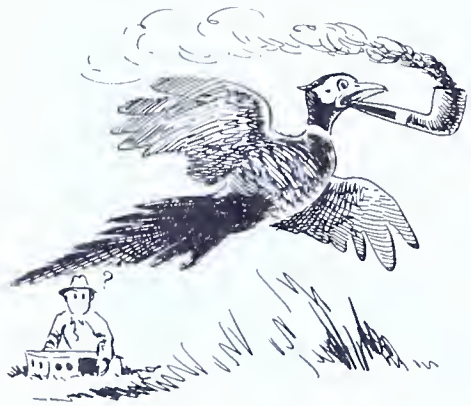
The Real Answer

LUZERNE COUNTY—Once again there is proof that food and cover are necessary for the survival of wildlife. Last year in my district, we edge cut along the roads on State Game Lands No. 187, and then planted grape. No game was stocked in this area but today there is an abundance of rabbits.—District Game Protector Norman J. Forche, Conyngham.



Pellets Prove Point

WESTMORELAND COUNTY—I had a complaint from a resident near Delmont that owls were roosting in his barn and messing up his car. Would I please remove them? Upon investigating, I found one barn owl roosting on the end of a board at the highest part of the barn roof. While I was looking for the owls, the owner came out of the house. I could see that he was well on in years. He told me he couldn't take care of things very well since he was 94 years old. The owls weren't "messing up" his cars, but another farmer had a new combine stored there. I explained to the old gent that what he had called dirt were pellets and took him into the barn to explain what I meant. I tore one of the pellets and took it apart to show him what they were, and also explained how an owl regurgitated them after digesting them and the meat from the carcasses. I also showed him the value of having the barn owls around by pointing out that the ear corn and sacks of grain on the floor had not been bothered by any rats or mice since the owls had taken over. He told me to forget about removing the owls and that he would have the new combine moved back out of range of the pellets.—District Game Protector D. W. Heacox, Irwin.



Pipe Smoking Pheasant

VENANGO COUNTY—Recently I was stocking ringnecks in Cranberry Township, assisted by Food and Cover Foreman Earl Nunemaker. I was releasing from one side of the truck and Earl from the other when I heard some "out of the ordinary" language. I soon was to discover that Earl had just opened a crate and was leaning with his head close to the door when out came a cock bird and took Earl's pipe from his mouth. Now this should have a quick ending, conditions were such we should have found the pipe in a few minutes, but it was nowhere to be found. We finally decided that the pipe must have caught in the bird's wing and he flew off with it.—District Game Protector Leo E. Milford, Oil City.

What Happens To Tame Deer

BEDFORD COUNTY — While hunting near Rainsburg on November 13, 1954, Robert Cessna was attacked by a buck deer. George Welch, who was hunting near by shot and killed the deer. On checking we found that the deer had been picked up and tamed in 1953. The deer had a rack of seven points. The deer walked up to Mr. Cessna to within about three feet and then charged him. He was very severly cut and bruised before Welch could get in position to shoot the deer. This is a sample of what may happen when people pick up fawns and tame them. Mr. Cessna was off work one week from the injuries he received.—District Game Protector E. M. Woodward, Bedford.

Cottontails Down the Drain

ADAMS COUNTY—During the month of November, it was my privilege to spend a few hours hunting rabbits on the farm of Russell Deaner, R. D. No. 5, Gettysburg. Mr. Deaner has a very productive rabbit area and I was interested in his manner of aiding his own quest for better hunting. Mr. Deaner likes to trap and hunt foxes, and during the past several years the money derived from fox bounties has been put to good use by purchasing several hundred dollars worth of drainage tile and digging it in on different localities on his farm. The tiled areas have furnished excellent breeding and escape areas for rabbits on the area. In a matter of a couple hours, we were fortunate to see 17 rabbits. Six of these were killed and on the last day of the small game season, many rabbits were still observed on the area to furnish breeding stock for next year.—District Game Protector Paul H. Glenny, Gettysburg.





Photo by W. S. King

TYSON'S SKYHILLS FLASH, owned by R. P. Papa, of Toronto, Canada, and handled by Carl Beattie, is the 1954 Grand National Grouse Dog Champion.

The 1954 Grand National Grouse Dog Championship

By Marc J. DeBerti

TYSON'S Skyhills Flash, dark liver and white pointer dog, is the 1954 Grand National Grouse Dog Champion. Owned by R. P. Papa, of Toronto, Canada, Flash was handled by Carl Beattie. Tancanhoosen Hunter, another pointer dog owned by Libbeus Bissell, Rockville, Connecticut, and also handled by Beattie was named Runner-up in the championship. For youthful Carl Beattie, who received his dog training background in the mountains near Lake City, Elk County, this achievement was the realization of a life-long dream. Beattie now maintains his training kennels at Fulton, New York.

Eleven setters and six pointers, the cream of grouse dog breeding and training in the entire United States, were drawn to compete in the one hour qualifying series. From these, only four were selected to run the two hour finals—Tyson's Skyhills Flash braced with Retina, setter female, and Tancanhoosen Hunter braced with Puckety Village Boy, a pointer dog which won the championship in 1953. "Boy" is owned by Edgar McKean, of Pittsburgh, and handled by Gene Galloway while Retina is owned by John Hadaway, of Flint, Michigan and handled by Luther Smith.

All these grouse specialists ran their qualifying and final series last October over the famous Buzzard Swamp Grouse Trial Course, located in the Allegheny National Forest about five-minute's driving time from Marienville. The grounds are considered by many as the finest grouse trial courses in the country and are

a cooperative undertaking between the U. S. Forest Service, the Pennsylvania Game Commission, and the Pennsylvania Grouse Trial Clubs. Here grouse have always been found in adequate numbers to conduct highly successful trials, testing the mettle and ability of grouse dogs. Even during years of grouse scarcity as we experienced in 1954, birds were found by competing dogs. And from every corner of the country came sportsmen to watch these great dogs in action, locating and handling the most difficult of all game birds.

Tyson's Skyhills Flash, now four years of age, succeeds the brilliant pointer Puckety Village Boy who set the entire grouse trial fraternity agog by winning the Grand National and the Open Pennsylvania Grouse Dog Championships in 1953. This was Flash's first attempt to capture a grouse crown and he succeeded far beyond his proud owner's fondest expectations. Flash, however, has 22 other field trial placements to his credit and even won the Ontario Bird Dog Championship in 1951 when only a little over a year of age.

He gave a slashing performance to capture this title. A powerful dog in motion, with a ground devouring stride, the handsome pointer cut the course to ribbons in perfect grouse dog pattern. During Flash's qualifying hour, he found game only once but on this occasion he handled his quarry in true championship fashion. The bird was accurately pinned and the dog showed finished manners to the flush and shot. Even when his bracemate ran in front of his point, flushed the grouse and gave chase, Flash stood steady. It was a sterling exhibition of bird handling and good training.

But in order to be a true champion, a dog must have unlimited stamina and run a tough, two-hour course without a letdown. This Flash did without faltering and when ordered up, he looked as if he could have gone on forever. He also had an opportunity to back his bracemate on point which he did without coaching. To clinch the title he came through with another point on a single grouse that flushed before the handler reached the dog. But Flash remained staunch like a true champion.

The Runner-up, Tancanhoosen Hunter, was right on Flash's heels. With a ground race equal to the champion's, a neatly handled find on a pair of feeding grouse during the finals, and a perfect back of his bracemate while on point, Hunter was a serious contender. The difference between the two dogs lay mainly in the fact that Flash had a point on both his qualifying hour and his two-hour finals while Hunter contacted game only during the finals.

There were other great dogs in the running, of course, and as always, there were those that did the unexpected. Puckety Village Boy was in there pitching all the way until he literally pointed himself out of the stake. The setter bitch, Retina, just found too many birds and had her bird handling technique been a little more polished, the story might have been different. Another setter bitch, Milmac's Blondie, owned by Mr. and Mrs. A. C. MacMullen and handled by Art Haight, also contacted game too many times for her own good, forgetting her manners and training on several of her contacts. Orchard Valley Skylight, stylish setter owned by Bob Habgood, of Bradford, and handled by Rich Tuttle, set the gallery talking with his merry and captivating manner of covering the course. He was unfortunate, however, in running into the grouse which elected to flush from trees. This setter stylist will bear watching in the future.



Commission Sets Tentative Opening Dates For 1955 Seasons

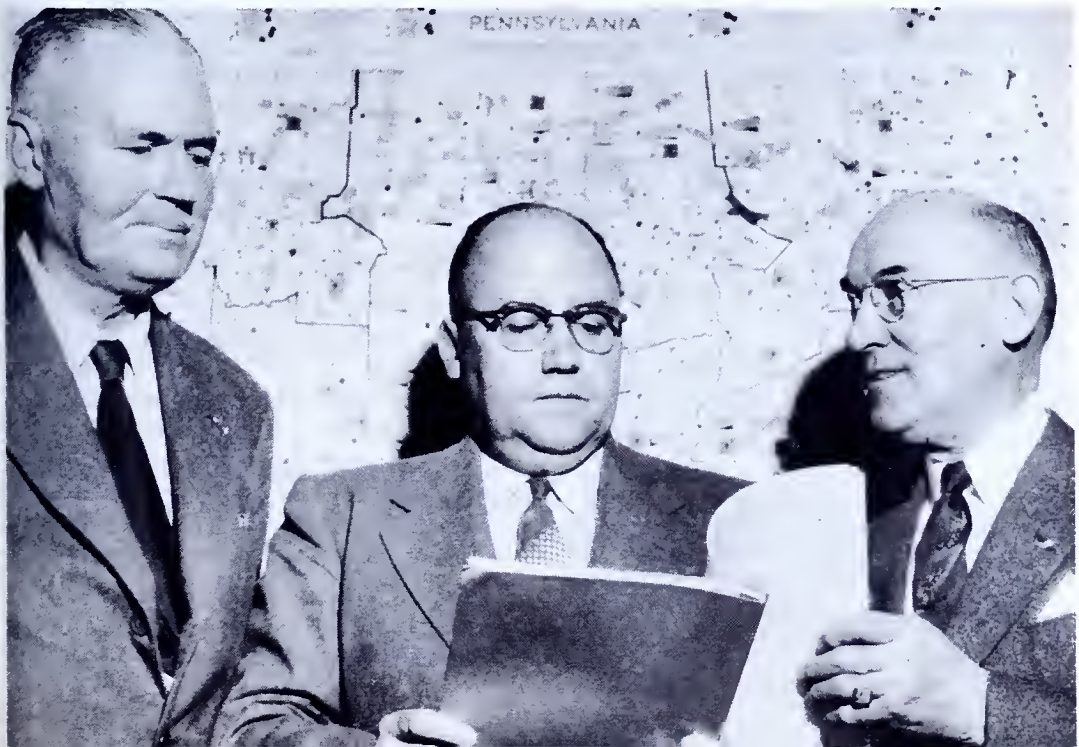
At its regular January meeting held in Harrisburg on January 7, the Pennsylvania Game Commission followed custom in setting the tentative opening dates of the 1955 hunting seasons. These dates are not final although only unexpected changes in wildlife conditions next spring and summer would necessitate revisions. The official opening dates, length of seasons and bag limits will be finally established at the July meeting of the Commission. Probable opening dates are given now to help hunters plan vacation periods.

Following are the probable opening dates set by the Commission:

Bow and arrow deer season ..... October 10
Small game season ..... October 29
Bear season ..... November 14
Regular antlered deer season ..... November 28

U. P. Photo Courtesy Harrisburg Evening News

NEW OFFICERS OF THE PENNSYLVANIA GAME COMMISSION, elected at the January meeting are, left to right: Col. Nicholas Biddle, of Bethayres, President; Andrew C. Long, of Shamokin, Secretary; and H. L. Buchanan, of Franklin, Vice-president. Col. Biddle has served on the Commission since 1935, was president from March, 1935 to January, 1940, and for the past two years has served as vice-president. Commissioners Long and Buchanan were appointed to the Commission in June, 1953.





MORE THAN 675,000 VISITORS TO THE 1955 PENNSYLVANIA FARM SHOW saw the Game Commission's colorful and educational exhibit prepared by George Koehler and administered by Don Miller of the Reading office.

NOTICE ON BOUNTY RATES

PENNSYLVANIA GAME COMMISSION

(Except from Official Minutes, Pennsylvania Game Commission Meeting, January 7, 1955)

RESOLUTION

WHEREAS, After giving due consideration to the present predator population:

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101, of the Game Law, by resolution adopted this 7th day of January, 1955, hereby directs that for the period beginning June 1, 1955, and until further notice, the bounty payments authorized for the birds and animals enumerated below, if killed in a wild state in any county of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

1. *Gray Fox*—$4.00 for each gray fox.
2. *Red Fox*—$4.00 for each red fox.
3. *Great-horned Owl*—$5.00 for each great-horned owl, adult or fledgling, killed during all months excepting November and December.

BE IT FURTHER RESOLVED, That the foregoing resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the February and March issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

"I hereby certify the above to be a full, true and correct copy of the resolution establishing bounties on certain predators killed in a wild state within the Commonwealth from June 1, 1955 until further notice. Notice of this action is published in accordance with the requirements of the law."

Logan J. Bennett
Executive Director
Pennsylvania Game Commission

TV Debut

By Leo A. Luttringer, Jr.

Chief, Division of Conservation Education

BEGINNING the week of September 20 the Commission embarked on its first major television program, titled OPERATION WILDLIFE. It ran eleven consecutive weeks with fifteen stations cooperating in the telecast.

Six brand new thirteen and a half minute pictures were prepared for the occasion. These, plus five special subjects already in the Commission's film library, made up a widely diversified program which introduced wildlife and its management to our citizens for the first time in an organized television presentation.

Subjects included: The Woodcock in Pennsylvania; The Cottontail Rabbit; The Ringneck Pheasant in Pennsylvania; Game Birds; Waterfowl Restoration; Pennsylvania's Deer Problem; The Right Way to Hunt; Furbearing Animals, Shooting Safely; Lost Hunter and How to Shoot the Bow.

Altogether seventy-seven films were used, seven prints of each of the eleven subjects. So that maximum use would be obtained from all of the pictures, they were produced in color and will subsequently be placed in the field division offices for further showing at sportsmen's and other association meetings, schools, youth groups, etc.

Reports from the stations which are hereinafter listed, and to whom we hereby acknowledge our great appreciation, were so encouraging that another totally different program is being considered for next year.

The cooperating stations were: WBRE and WILK, Wilkes-Barre; WLEV, Allentown; WJAC and WARD, Johnstown; WENS, Pittsburgh; WGAL and WEEU, Lancaster; WTPA, WHP and WCMB, Harrisburg; WGBI, Scranton; WICU and WSEE, Erie; and WNOW, York.

Prior to the production of OPERATION WILDLIFE other TV programs, many of them live, were presented locally by the conservation education assistants in the Commission's six field administrative divisions and personnel in the Harrisburg office. These earlier and still current efforts are mentioned, so our readers may know that OPERATION WILDLIFE was not our *first* TV debut.

Things You May Not Know

A bird's two eyes often weigh more than its brain. The ostrich's eyes often weigh more than twice the weight of its brain.

* * *

There are very few red flowers which are fertilized by bees probably because bees seem to be color-blind to red.

* * *

Beavers can work under water sawing poles with their teeth without getting water in their mouths. The lips are so designed that they close in back of the long, front incisor teeth. Their ears and nostrils are also provided with valves which keep out water when submerged.

* * *

Nearly twice as many hunting accidents are experienced by hunters aged 19 or under than any other 10-year span age group, says the National Rifle Association.

* * *

Human ears cannot hear the incessant clamor of the bat as he flits about overhead because the bat's signaling voice lies in the wave band of about 50,000 cycles or vibrations per second. Human ears can only detect sound in the band from 20 to 20,000 cycles.

BOY SCOUTS OF AMERICA

70,000 Conservation Good Turns

By Ted S. Pettit, Conservation Director Boy Scouts of America

IN THE long list of national good turns undertaken by the Boy Scouts of America, few if any have attracted the interest or resulted in the accomplishment of the 1954 National Conservation Good Turn, Ross L. Leffler, Scout Conservation Chairman announced recently.

"It is especially interesting," Mr. Leffler said, "that Pennsylvania, the state where the Scout Conservation Good Turn probably originated back in 1912 or 1913 under the leadership of the late John M. Phillips, forty-two years later is still one of the leaders in the country in Scout conservation activity. Much of the credit for this accomplishment goes to the field men of the Game Commission who have given so much time and energy to working with local Scout groups in planning and even in helping to carry out boy-level conservation programs."

To summarize briefly the background of the 1954 Conservation Good Turn, it came about as the result of a request from the President of the United States who asked the Boy Scouts of America to undertake a conservation good turn to "help arouse public recognition of the need for adequate protection and wise management of our soil, water, mineral, forest, grassland and wildlife resources." With the help of technicians of federal, state and independent agencies, Scout units developed programs of conservation activities aimed at arousing public recognition.

More than 70,000 Cub Scouts, Boy Scouts, and Explorers in Pennsylvania carried out nearly 2800 separate projects in soil and water conservation; almost 2800 projects in forestry; and nearly 2000 different projects in fish and wildlife management in answer to the President's request.

In detail, these activities consisted of:

1,298	eroding gullies worked on in an effort to reduce further erosion.
937	acres of planted in grass to provide protection for the soil and prevent too rapid water runoff.
756,641	trees planted for future timber, watershed protection and cover for wildlife.



CONSERVATION ROUNDUP held by Allegheny County Council last October featured fox trapping demonstration by Pennsylvania Game Protector Fred Servey. Game Protectors assisted scouts in setting up demonstration area to show wildlife food and cover development.

2,395 acres of woodlot improved, by selective cutting, fire protection and insect and disease control.

194 forest fires fought. While only a small percentage of all fires, still dramatic proof of what can be accomplished by trained boys and young men.

66,583 forest fire prevention posters distributed.

25,539 feet of hedgerows planted to provide food and cover for wildlife.

111,873 feet of stream and lakeshore improved, to help make the waterways more habitable for fish and wildlife.

32,558 food shrubs for wildlife planted.

6,650 nesting boxes built and set out for woodducks, squirrels and raccoons.

845 gun and hunter safety demonstrations put on for boy and adult groups, to help reduce the needless number of deaths and injuries due to hunting accidents.

19,162 hours spent helping clean up roadsides, streams, lakes and campsites, of litter and rubbish strewn by careless motorists and campers, in an effort to keep Pennsylvania beautiful.

In addition, Scout units put on more than 1700 demonstrations and exhibits before youth and adult groups to arouse interest in conservation and to show some of the techniques necessary for the intelligent use of our natural resources. More than 2500 talks were given by especially trained Scouts to youth and adult audiences—and by conservation technicians to Scout audiences for the same purpose.



BOY SCOUT CONSER-O-RAMA brought almost 3,000 Delaware and Montgomery County Boy Scouts to Camp Delmont, 632 acre Scout Reservation of the Valley Forge Council, last October. Under supervision of Game Commission personnel, the scouts started planting of fields to grains and cover, planning woodland border cuttings, and making release cuttings. A group of scouts, above, widened an old trail to serve as a fire lane in the future. Brush was pulled back into the woods and piled for wildlife shelter. Below, District Game Protector Dan McPeek points out a valuable food producing shrub to an Explorer Scout.

PGC Photos by Don Miller





PGC Photo by Ralph Cady

SCOUTS ATTENDING HIDDEN VALLEY CAMP of Keystone Area Council, Harrisburg, last summer received valuable conservation instruction and demonstrations from Commission representatives.

Twenty-one local Scout councils in Pennsylvania report that with the help of the Soil Conservation Service, the Fish Commission, the Game Commission and Department of Forests and Waters that they have developed conservation plans for their campsites, for the purpose of making those camp areas conservation laboratories where both boys and leaders may learn conservation techniques in the future.

Most of the Scout Councils in the state carried out special conservation activities designed to teach Scouts the desired attitudes of conservation as well as the techniques; and also to arouse the interest of the general public in conservation.

Among these special activities in Pennsylvania were: 18 different TV shows; 21 radio programs; 27 conservation rallies; and more than 60 demonstrations for both boys and adults, planned to reach large audiences. One of these demonstrations put on by the Pottsville Scout Council reached 750 boys and leaders in a single day.

Among the wildlife projects carried out, of special interest to sportsmen are: Raising and releasing pheasants by Valley Forge Council Scouts; rabbit trapping for redistribution by Scouts of the same Council; construction, setting out and stocking all winter of fifty game feeding stations by Pottsville Scouts; planting 3500 multiflora rose plants for cover by Oil City Scouts; work with sportsmen's clubs on special projects by Pittsburgh Scouts; special stream cleaning projects by Sharon troops; and brush pile building projects by Pittsburgh units.





Dear Sir:

While to some people the man of authority may be designated the "blank" Game Warden, for myself I should like to report a definitely different relationship with one of your field officers.

At 8:00 a. m. on the first day of the 1954 deer season, I wounded a trophy size buck. After I trailed him for a mile and a half, he entered a game refuge, halting my pursuit. Could we secure the services of a Game Protector to help us? That night at 8:00 p. m. we made a phone call to the officer's home, relating to him the incident in hopes that some time during the week he might be able to enter the refuge to determine if the wound was fatal.

All of us practically dropped our teeth when he said, "I will be over right away." We spent the next hour gathering lights for the pursuit which yielded nothing but tracks. It left us satisfied, however, that a prize trophy animal was not wasting and that the refuge wire was not separating us by a narrow margin of distance from the buck.

After our search the Game Protector came with us into our cabin. There, over a cup of coffee, we discussed some of the points of the law, the work of a game protector, and the conservation programs being advanced by the Game Commission. It was a most delightful experience.

All of us at "Hillcrest Camp" tip our hats to Pennsylvania Game Protector Michael Evancho of Jersey Shore and request that you send us more like him.

Rev. George L. Harting
York, Pa.

Dear Sir:

Thought you might like to get a personal report of hunting conditions in another part of the world, where I'm now stationed with the occupation forces.

Last week I finished my test for a German hunting license, learning a lot about hunting and German hunting lore. Not everyone can hunt over here since the test, plus the cost of hunting, keeps the common man out of the woods. The ones who are left are fairly good hunters and real sportsmen. Sportsmanship, by the way, comes first, last and always over here. First shot that hits a vital spot keeps the game. And to shoot a nice, young buck like a four or six pointer, is very poor sportsmanship—looked on with much disgust.

The man who owns the hunting rights owns the game. He also has to pay any damage that is done by the game. Wild game is sold on the open markets and is one of the main meats served in restaurants. Roe deer are very good eating, a favorite on the menu.

German hunters are careful hunters, a fact best proven by their dress. They wear green and brown clothing in the woods; red is an unknown color in the hunting grounds.

Sunday the local Rod and Gun Club had a shoot in which we Americans each drew a German partner. I was teamed with a young man who roughly corresponds to our Game Protectors. He was a very good shot and we took first place in the .45 caliber pistol competition. Targets used were pictures of game marked to show vital hits, about ten of these spots being about two inches in diameter. We shot standing roe deer,

standing boar, setting fox and running boar with rifle and pistol. Used standing rest for the roe deer targets, off-hand position for standing boar, prone for the fox targets, and "any way you can hit 'em" for the running boar.

Lee Wilson
Union City, Pa.

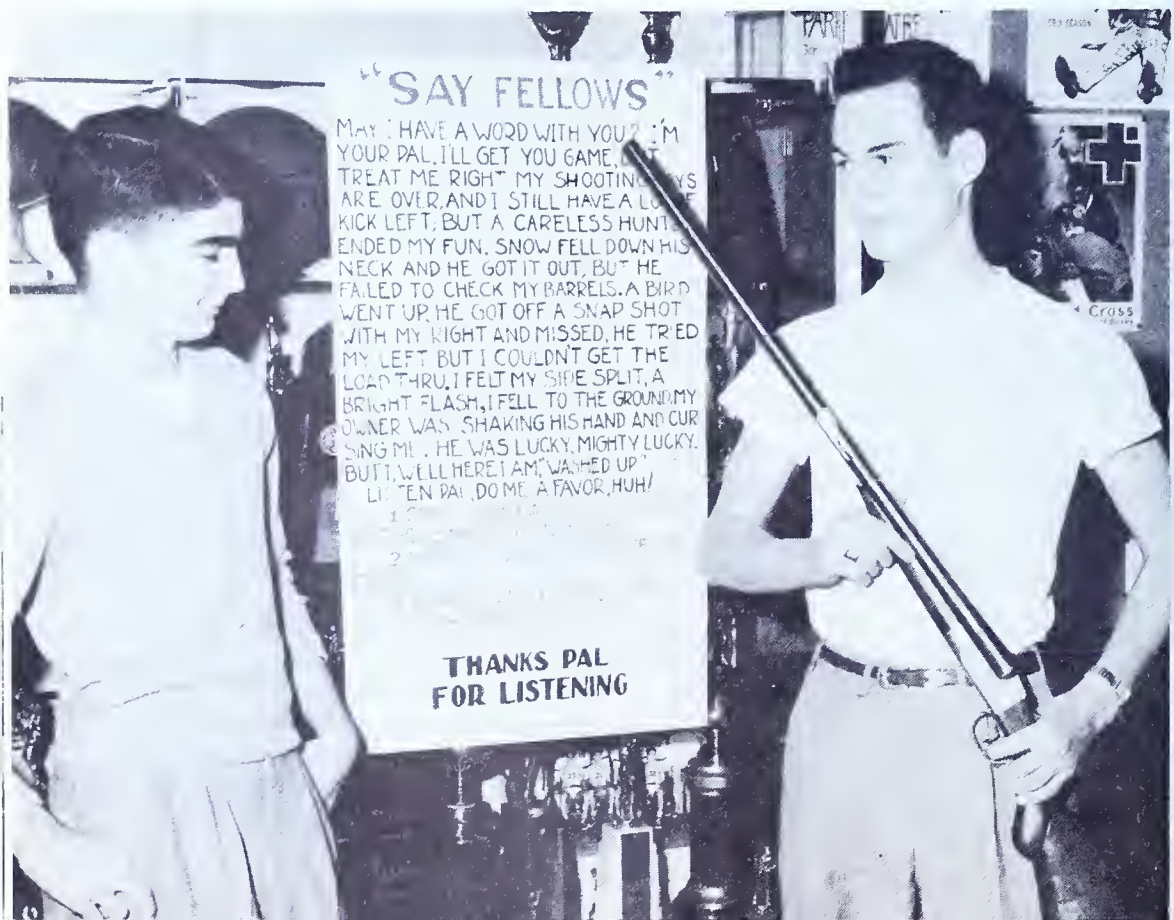
Gentlemen:

Our high school rifle club, of which I am coach, has complied with your request to promote, in some manner, the safe handling of firearms and safe hunting practices in the field. The particular display which we are using this year is a 16 gauge, double-barrel shotgun having the left barrel blown out due to an obstruction at the time the gun was fired. The poster describing the display is a message to our young hunters from this damaged shotgun. It is interesting to note the many students who take time out to read this message during changing of classes or when they are in the hall at other times.

Our experience has shown that these object lessons, sponsored annually by the Rifle Club at the beginning of the hunting seasons, are paying big dividends. Each year our club enrolls from 75 to 115 boys and girls. In eight years none of the club members have been involved in any type of hunting accident. It has also been interesting to observe that the boys who have gone into the armed services have progressed rapidly on the firing range.

Orlo E. Cox, Rifle Coach
Meadville High School

MEADVILLE HIGH SCOOL RIFLE CLUB OFFICERS Tom Ferer, left, and George Brock, right, call attention of youthful nimrods to message from a "blown-up" shotgun held by Brock.



Gentlemen:

This past year of 1954 was a year of "firsts" for us in the Pocono mountains. After 32 or 33 years of spending vacations and making day trips to the Wallenpaupack area, it took this year's vacation to show us a little of the wildlife that is really there.

In July we saw numerous deer and groundhogs, as we expected. But one day around 11:00 a. m. we saw a bear cross the road. He must have been about a year old and, as we learned later, was one of three that had been living in a hollow along Marshall Creek. Our first bear.

Another day on the road to Minisink Lake we saw three hen turkeys cross the road just ahead of the car—our first wild turkeys. And some of the sportsmen who have been hunting turkeys in that section for 25 years have never seen any. On White Deer the beavers have been "coaxed" to move but at the end of July there was the grandfather of all beavers, swimming down our side of the lake very much at home—our biggest beaver.

In August, for the first time, we saw geese fly over and the ducks land on the lake. Another day we parked the car and hiked back to Bruce Lake in the wilderness area, for the first time finding a species of violet (no bloom) we didn't know and lots of large red raspberries. It was around this time that we heard the whip-poor-will for the first time on White Deer. On our last night in camp we were awakened at midnight by a small grunting noise outside. We found a porcupine climbing a tree about a foot away from the window. In September, while on an overnight trip to the cabin, we came home loaded with our first wild grapes (fox and regular) and memories of a grouse strolling down the path.

Knowing these creatures were around all the other times we were there only makes it more interesting to us that we should have seen them all in one summer. Our thanks to everyone responsible for preserving the natural habitat for these animals and for us.

Mrs. Frank Williams
Philadelphia, Pa.



Dear Sir:

Here is a photo of a black, wild cottontail rabbit, something very few people have ever seen. This rabbit was bagged near Chalfont, Pa. during the 1952 small game season by Mr. Joseph Bongard, 102 Cameron Road, Willow Grove, Pa. Mammologist Fred Ulmer examined and identified it as a rare melanistic phase of the cottontail rabbit, the first one he had ever seen. I mounted and photographed this rabbit in a natural setting, believing it would be of interest to you and readers of the GAME NEWS.

Fred W. Stoll, Taxidermist
Willow Grove, Pa.

Beaver Trapping

By Larry J. Kopp



Photo by Don Shiner

SINCE beavers are limited more or less to certain areas in the state, catching them at this time of the year does not provide an opportunity for as large a number of trappers as do most other furbearers.

It is good to know, however, that beavers are increasing, as indicated by annual record breaking catches, and some day perhaps it will be possible for more Pennsylvania trappers to go after this prize fur animal in a less time consuming and expensive fashion. Nevertheless, there are many trappers who can afford, or simply do not mind, the expenses incurred by making a lengthy, across the state, or northward journey in the hope of latching on to a fine specimen of the animal which has become the symbol of our American fur trade.

Here in my home trapping area, (Schuylkill County) beavers are not much more than a novelty, and it follows that it is one of few furbearers which I have never had the pleasure of trapping.

Fortunately however, I became quite familiar with the habits and trapping methods of beavers some years ago when my Dad caught his season's limit right here on our own farm.

How they got here, or where they came from, remains to this day an unsolved mystery, for never before had beavers been know to exist in this area. It could be assumed that a pair migrated eastward from the Susquehanna River, along the Mahantongo Creek, and finding here a good stand of paper birch mixed with some poplar and aspen, they just decided to make this their home.

Originally my Grandfather discovered their presence when he saw a dam which they had constructed across the Mahantongo Creek not more than four hundred yards from our home. Needless to say, in days that followed I can recall spending countless hours watching them at work during various intervals of the day. It was in the Spring when their presence was discovered, and by mid-Summer we were pleasantly surprised one day to see four of the large furry creatures instead of the original two, busily engaged in the business of felling trees; or just gliding around on the water which by this time had been backed up for a considerable distance along the stream.

Then came Fall and Winter. And finally the trapping season opened! Prior to this eventful day, my Dad had given much serious consideration to the effects which an increasing number of the animals might have



on the low lying farmland in this area. It was decided that for the welfare of all concerned he would try to trap his limit of two which the law allowed at that time. It turned out to be a grave mistake, for although he caught two nice beavers, the remaining two left the territory and none have been seen here since. Such, of course, are the costly errors which forcefully help us to form the better conservation policies of tomorrow.

It has been said that the beaver is one of the easiest animals to catch; and as far as their fear of traps or signs of human activity is concerned, this holds water. But when a beaver once becomes alarmed by a snapping trap which almost caught him; or if one manages to escape from a trap, he can easily become as worthy a rival as the fox or mink.

Having had no previous experience with beaver trapping, my Dad, like most other amateurs did some advance planning and study. He learned that large size traps were most suitable, and having several No. 2 fox traps, he employed these. Additionally it was learned that long chains which would allow one to anchor the trap out in deep water were a necessity. It is important that beaver sets are made so that the catch will drown shortly after being caught, thus preventing an escape which would alarm the whole colony.

After having often seen the beavers in action while felling trees, or dragging large lengths of their trees down over the bank and into the stream, it was apparent that a fairly heavy anchor would be needed for the trap, one which the beaver could not drag out into shallow water.

With the foregoing knowledge in mind, a strong chain five feet in length was attached to the traps, and for the anchor, a large heavy rock was used.

As in muskrat trapping, good sets are usually made along the stream where fresh sign appears. There was one slide near their dam which they seemed to be using constantly, and here the first trap was set. At the bottom of the slide, in the dater, a flat surface was scooped out of the hard

TIPS FOR BEAVER TRAPPERS

If you plan to operate a trap-line for Pennsylvania's most valuable furbearer, the beaver, during the 1955 open season, 7:00 a. m. February 14 to 12:00 o'clock noon March 5, know and abide by these important rules and regulations designed to safeguard the species as well as provide a suitable state-wide harvest:

Daily and season bag limit is four (4) beavers, to be taken by traps only.

Certain beaver colonies are protected. The Commission designates and posts such colonies against trapping within their dams or within 200 feet therefrom.

Non-residents may NOT trap beavers.

One person may set, tend or operate ten (10) traps only. Such traps must not be set on the structure of any beaver dam or house, or within 25 feet of the water-line on the structure of either. All traps must be tagged with metal tags bearing the name and address of the owner. Trap tags must be kept above the waterline or ice to facilitate identification without disturbing the traps.

A seal must be affixed to each beaver pelt within 10 days after the season closes and may not be sold or otherwise disposed of until properly sealed. Take them to the Game Protector in the District or County where they were trapped for sealing.

clay soil; large enough to accommodate the number two trap. This done, the anchor to which the chain had already been attached was tossed out into the deep water, and pulled back just far enough so that the trap could be set properly in its place. With the trap chain pulled taut, but not entirely suspended in the water, the trap was carefully set in the previously made bed where it was covered by about three inches of water. The reason the trap was not set in deeper water, was that in this way a beaver would most likely be caught by a front foot, and with the weight of the trap pulling the animal down in front as it swam out into deeper water, it would help to assure a drowned catch. To make this even more effective, a second rock weighing about four or five pounds can be attached to the chain close to the trap. When the animal swims out into deep water, this will help to pull it down under the water.

Since the goal was two beavers, only this one trap was set the first day. It seemed that catching the limit at this particular slide would be a cinch.

This assumption proved to be incorrect, because, although it produced a fine sixty pound male the next moring, it refused to yield a second one within the next four days. Apparently the other beavers heard or saw their brethren caught in the trap, and thereafter carefully avoided the spot. Finally, after this lapse of unsuccessful days, it was decided that another type of set would have to be made in order to fool one more of the remaining three animals.

Farther upstream was a bank approximately four feet high and slanting upwards on a forty-five degree angle. The water here was quite deep, and my Dad decided that here was an ideal spot for a bait set. He proceeded to scoop out a trap bed at the base of the bank similar to the one made at the slide, and with the second trap again anchored to a heavy rock, it was placed in position so that one of the springs was pointing downstream, therefor allowing an approaching beaver to step directly between the jaws without too much chance of misfiring. Partway up the bank, directly above the trap, he scattered a generous amount of fresh poplar bark which he sliced from a short length of a small poplar tree. The almost white looking length of poplar wood from which he had sliced the bark was also placed conspicuously nearby, and these fresh food signs served to imitate where a beaver had been feeding.

The expected catch the following morning failed to materialize, but on the third morning the bait set proved its worth by producing another fine specimen. This was a forty pounder which we assumed was one of the youngsters in the family.

I would like to note further that both of these large and comparatively strong animals were neatly drowned, proving that a long chain and heavy anchor placed out in deep water did the trick.

Ordinarily a beaver can be skinned in the same manner as you would another which is to be cased, but after it has been skinned, the pelt is split through the belly part, then tacked upon a large sheet of heavy board or a wall in as nearly round a form as can be made. To accomplish this, the pelt is first placed on the board, fur side in, then the nose is tacked to the board, followed by the tail end. The pelt should not be stretched too taut between these two points, for the next step is to pull out the sides of the pelt and after these have been tacked, more tacks are placed in between the four which already hold the pelt until it is completely stretched in a circular form.

The next step is to flesh the pelt, by cutting and scraping off all excessive fat.



OUTDOOR FUN WITH A FUTURE



Build Nesting Boxes

A few years ago, a Boy Scout troop in Erie County, New York, just over the state line from Pennsylvania, was directly responsible for a huge increase in the number of bluebirds in the area. They did it first by building and setting out more than one hundred and fifty bluebird houses—and then by cleaning out and repairing the houses each fall after the birds had left.

Up on Cape Cod, in Massachusetts, another Scout group was successful in getting tree swallows to nest where previously they had not been known except as immigrants passing through. Again the secret was building and setting out suitable nesting boxes.



A sportsmen's club in central New York state was the cause of an increase in the number of woodducks in the county. According to their own estimates, they now have about forty pairs of these birds nesting there each year. Five years ago there was one known pair that nested in the area. Nesting boxes, built during the winter and set out in February did the trick.

Anywhere you live, you too can provide more homes for wildlife simply by building and setting out suitable nesting boxes. For several mammals and many kind of birds naturally nest in hollow trees, and when such natural sites are not available, and if other conditions are suitable, these animals will readily accept man-made substitutes and set up housekeeping in your own backyard.

Bird boxes may be put up almost anywhere and it is amazing how quickly they will attract occupants. A few years ago, a fellow working on a Boy Scout Merit Badge looked for a place to set out some nesting boxes. He lived in the middle of a large city, where there wasn't even a suitable park. One day he passed a cemetery and saw that there were lots of trees there and apparently a good place for

birds, if they had places to nest. The cemetery officials readily gave permission for the bird houses, and he set them out. Out of eighteen houses, ten were used the first year, by house wrens, chickadees and downy woodpeckers. One starling family took over one house and English sparrows occupied two.

In other places, the rows of trees between the fairways on golf courses have been used successfully for bird houses, and in the more open country, fence posts along roadsides, trees in apple orchards and posts or trees along the edge of woodlots or hedgerows. There are many places where bird houses may be set out—but most important, are the specifications of the houses themselves.

Cities, villages, towns and counties frequently have building codes that set forth how houses for human occupants must be built; certain specifications must be met before the houses may be occupied. These codes are designed to protect the safety of the people who live in the houses. Birds themselves have certain requirements for their homes, or they will not move in. Then too, other requirements must be met for the protection of the birds. For building bird boxes may be a complete waste of time, money and energy, if after the houses are built, birds will not use them, or if they do use them, they do not successfully raise a crop of young.

Here are some general rules to follow:

First, make the houses for specific birds or mammals—Wood duck boxes, squirrel boxes, bluebird houses. Do not just make "bird" houses.

Second, do not try apartment houses, except for martins. Most birds demand privacy and will drive away others who come too close to their houses.

Third, make the holes to fit the bird or mammal. Every bird or mammal has its own requirements. With song bird houses, English sparrows or starlings will move in and drive away more desirable birds if the hole is large enough. With wood duck boxes, raccoons may get in and destroy the eggs or young ducks if the hole is not just right.

Fourth, do not use tin cans as a general rule. The sun beating down may heat up the inside like an oven and bake the young birds.

Fifth, do not set up too many houses in a small area. Three or four to an acre is the largest number as a general rule that will be used.

Sixth, do not hide the houses in dense foilage. They should be placed in open shade, on poles, tree trunks or suspended from branches.

Seventh, clean out the houses after each season. Birds demand clean houses each year. This means that boxes should have provisions for easy cleaning. Either the top or bottom should be hinged or fastened with an easily removable screw so that they may be cleaned without taking them down.

Eighth, all houses should be made so that they are well ventilated and easily drained of any rain water that may blow in. Slits under the roof provide ventilation and a few holes drilled in the bottom will provide drainage.

Following are specifications for houses for some of the more common species, recommended by the U. S. Department of Agriculture:

1. Bluebird
   - Floor size ..... 5 x 5 in.
   - Height of house ..... 8 in.
   - Hole above floor ..... 6 in.
   - Hole diameter ..... 1½ in.
   - Height above ground ....5—10 ft.
   - Place houses in sunny places, in orchard or along roadsides.
2. House Wren
   - Floor size ..... 4 x 4 in.
   - Height of house ..... 6—8 in.
   - Hole above floor ..... 6 in.
   - Hole diameter ..... 1 in.
   - Height above ground ....5—10 ft.

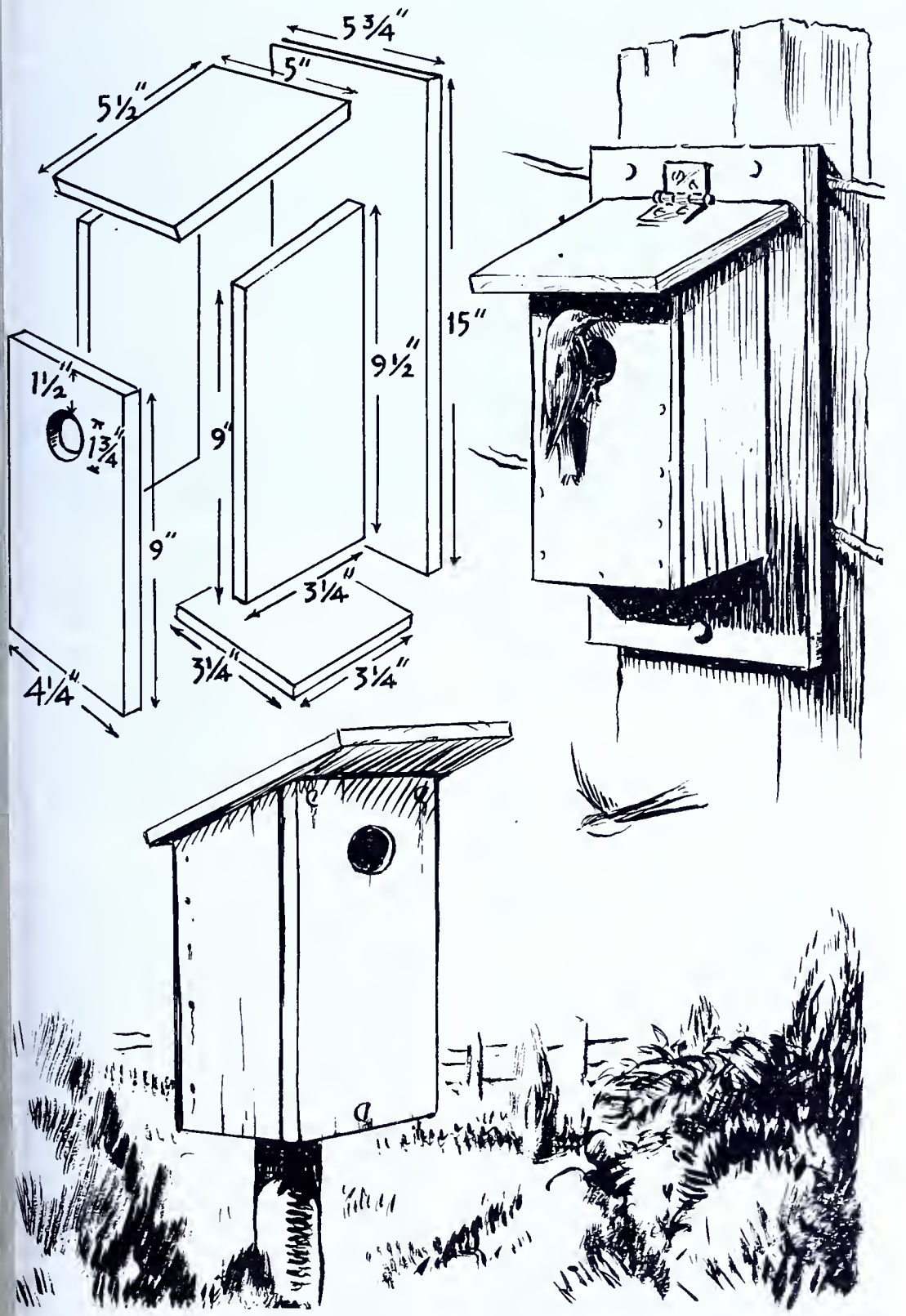


Illustration from "Birds in Your Backyard," courtesy Harper and Brothers, publishers, New York, N. Y.

3. Chickadees, nut hatches, titmice, downy woodpecker.
   Floor size ..... 4 x 4 in.
   Height of house .....8—10 in.
   Hole diameter ..... 1¼ in.
   Hole above floor ..... 6—8 in.
   Height above ground ....5—15 ft.
   These birds prefer a bark-covered house. Use slab wood with bark on it. For woodpeckers place some wood chips in the bottom.
4. Tree Swallow.
   Floor size ..... 5 x 5 in.
   Height of house ..... 6 in.
   Hole diameter ..... 1½ in.
   Hole above floor ..... 5 in.
   Height above ground ....5—15 ft.
   Place these houses in the open on a post or dead tree, preferably near water.
5. Crested Flycatcher.
   Floor size .....6 x 6 in.
   Height of house .....8—10 in.
   Hole diameter ..... 2 in.
   Hole above floor ..... 6—8 in.
   Height above ground ....8—20 in.
   Nail bark over house and place in woods.
6. Flicker.
   Floor size ..... 7 x 7 in.
   Height of house .....16—18 in.
   Hole diameter ..... 3 in.
   Hole above floor ..... 14 in.
   Height above ground ... 8—20 ft.
   Make house of wood at least an inch thick. Sprinkle chips or shavings inside.
7. Screech Owl.
   Floor size ..... 8—10 in.
   Height of house .....12—15 in.
   Hole diameter ..... 3¼ in.
   Hole above floor ..... 10 in.
   Height above ground ...10—30 in.
   Rustic house is best, but even then you are lucky to get an owl to use the house. But it is well worth the effort to get one of these interesting birds to nest near your home.

One of the best all around designs is the one shown in the illustration. The specifications shown here are for bluebird houses. For other birds, vary the sizes to fit.

Use one-inch thick wood, which as you get it from the lumberyard is three-quarters to seven-eighths of an inch thick. Use brass screws and hinges so they will not rust.

To make one house, you will need a piece of wood six inches wide (about five and three-quarters as it comes from the mill) and fifty-two inches long. Saw off a piece fourteen inches long for the backboard. Saw off a second piece five inches long for the top and turn it down to five by five and a quarter inches.

Then rip saw the board for nineteen inches so you have a piece four inches wide. Cut this piece into two nine and one half inch pieces for the sides. Saw a half inch triangle off each side so the top will slant toward the front.

Next, rip the board so you have a piece three and a quarter inches wide. Cut off a piece nine inches long for the front and a piece three and one quarter inches square for the bottom. The bottom and the front fit inside the sides. Center the sides on the backboard and use screws to fasten in place. Use a hinge to attach the top to the backboard. Be careful drilling the 1¾ inch hole so as not to split the front.

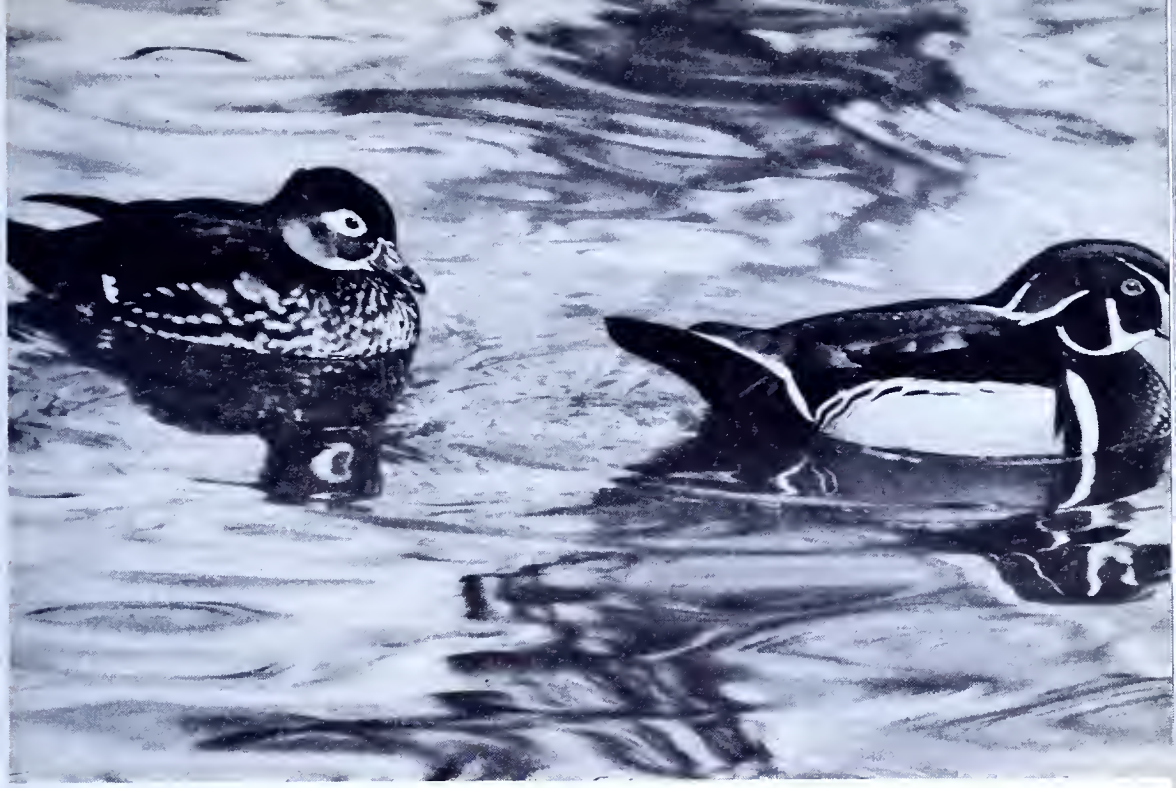
Wood Duck Boxes

The general principles for building wood duck boxes are the same as for any bird box. But the size specifications are much larger:

Floor area .....10 x 10 inches
Height of house .....28 inches
Hole diameter 3″x5″ (oval shaped)
Hole above floor .....20 inches
Height above ground ...6—20 feet

House may be placed on pole which has been driven into mud in bottom of lake or pond; or in trees near water edge. *Very important:* Place four inches of sawdust in the house, and tack screening or hardware cloth inside the front so the young ducks can climb up to the hole.

If the houses are placed on poles, tack sheet metal or tin around the



PGC Photo by Ralph Cady

WOOD DUCK PAIR present one of the most beautiful sights in the wild, the drake especially being colorful beyond description. Splendid come-back of this species in recent years has been helped tremendously by construction of man-made nesting boxes.

pole for 12 to 20 inches under the house so raccoons cannot climb up and get at the eggs or young birds.

Select a marshy or brushy area so ducks can feed and rest on the water in a protected place. Place the boxes above possible flood water height.

Squirrel Boxes

A box about the same size as a wood duck box, or an old nail keg or crate with an area 10 to 15 inches square and 18 to 20 inches high will provide a nesting box for squirrels. The hole should be about 4 inches in diameter, and the house should be placed high in a tree in a place where squirrels may find an ample supply of nuts, acorns or other food.

Slightly larger boxes, with holes 4 to 6 inches in diameter will also house raccoons. 'Coons have been known to use wood duck boxes on many occasions, but a slightly larger size is preferable for these larger animals. Place the house in denser foliage and be sure they are light tight, except for the hole and a few small drainage holes in bottom.

You can have a lot of fun by building nesting boxes and setting them outside. It's best to build them and set them out as quickly as possible, so new wood may weather before the nesting season arrives. But don't let that be the end of your project.

Build a small blind near the house, or find a place where you can hide in the bushes and watch the animal's activity as they build their nests and raise their families. For example, if a bluebird or downy woodpecker nests in one of your boxes, watch it for an hour or so some day when the eggs have hatched. You'll be amazed at the number of trips the birds make in an hour to bring food to the young. If you get close enough, or use good binoculars you can even see the grubs and insects the bird carries in its bill—and sometimes you can count the insects.

Building nesting boxes and setting them out can be only the beginning of fun with a future in conservation.

Make Your Reloading Safe

By Ed Shearer

PROBABLY no phase of the shooting game has come back to life to the same extent as reloading or handloading ammunition. I say "come back" advisedly because in the gone and forgotten black powder days, it was almost a universal practice for both rifle and shotgun. While today it is predominately rifle and pistol, due to the high price of ammunition, some shotgun reloading outfits are making their appearance on the market. Sporting goods stores serving the hunting country are well stocked with reloading tools and components. As little as five years ago you could not have flushed a can of powder out of the lot of them. According to reports this new year will find thousands of new reloading outfits in the hands of beginners.

One question the dealers in loading equipment are almost sure to be asked runs like this. Is it difficult to learn and how dangerous is it? Too many dealers having only a hazy idea themselves, assure the customer it is perfectly simple and safe. Just follow the instructions in the handbook (at one buck extra) and, Presto, in no time at all you are turning out your own high power cartridges.

Now in the old black powder days this was probably more or less true. Reloading ammunition was a relatively simple operation consisting mainly of driving out the exploded primer and pushing in a new one and selecting a charge of powder from some handy table of charges. There was not much chance to go wrong. The cartridge was usually designated both by caliber and powder charge such as 45/70, 44/40, etc. The 45 was the caliber and 70 was the charge of black powder in grains. The cases being designed for the charge, it was difficult to get more powder in and still room for the bullet. An over-load usually went out the muzzle in the form of unburned powder with no damage occurring.



Those days are long past except in the reduced loads field. The great improvement in components have made possible the modern high velocity rifle. There are two drawbacks to this from a handloader's standpoint. First, these rifles with full power charges have very high working pressures, about double the working pressure of the old black powder rifles. Second, the performance of these components are extremely unpredictable at high pressures without laboratory equipment, which the average handloader does not possess or have access to.

A discussion of reloading tools has no place here. Good and accurate ammunition can be loaded with the lowest priced tools. So let us assume the beginner is familiar with the operation (mostly by the trial and error method) and consider the factors that make SAFE ammunition.

To start with the beginner should get firmly fixed in his mind the loading tables in most handbooks are not worth a hoot in the top charges. Such small things as a change of primers or an over size primer flash hole, a tight chamber or increased seating depth, different bullets, cases too long for

the chamber, a variation in case capacity and numerous other factors, can cause dangerous pressures when working with maximum or near maximum loads. No one can recommend the absolute maximum load for any one combination of powder, bullet, case and primer. So to give the beginner a clear picture of what can happen with various components and how to safely assemble them, we will take them up in order.

First is the cartridge case which, from a safety standpoint, is the most important part of the firearm, also the weakest. Its function is to seal the gases and in view of the high pressures of our modern cartridges a failure of the case permits the gas to escape to the rear, causing anything from eye burns to the complete destruction of the firearm and serious injury to the shooter.

While the manufacturing process of cartridge cases has no place here one thing should be noted that introduces another factor in reloading with the higher pressures. Formerly all cases were made by the draw process which requires four draws and intermediate annealing. Now many of our cases are made by the extrusion process which produces cases with two operations on the same press, a considerable saving in costs. They look exactly like drawn cases but are softer and weaker and not too well suited for loading with high pressures.

The brass cartridge case will withstand just so much pressure. Above this pressure it enlarges, splits and breaks, allowing the intensely hot gases to escape. Some of our modern well-made cases of high intensity cartridges, with thick heads, such as the 30/06-270 Winchester, 257 Roberts and 220 Swift, withstand 52,000 to 53,000 pounds pressure under normal conditions and in good bolt action rifles. Anything above this will give a certain proportion of case failures—more or less serious. These



Photo by Don Shiner

HANDLOADERS Justine and Barbara Anslinger, of Berwick, are shown here weighing powder and loading shells.

loads should only be approached by the most experienced handloader who works up carefully, with adequate equipment and with new or cases in perfect condition.

It should be borne in mind that while cases have some excess strength for their designed pressures; the factory only figures on them being fired once. From there on the responsibility rests with the reloader, and it's this margin of strength he has to go on. This strength decreases every time the case is reloaded and fired, and often they give no warning. Even with moderate charges there comes a time when the cases will fail but the failure will generally be gradual and readily detected. If not, the damage rarely exceeds gas escape through the breech, causing eye burns, if the shooter neglects wearing shooting glasses.

In inspecting fired cases the primer should be examined closely. If there is a black smudge around the primer, pocket, or the primer is abnormally flattened out, excessive pressure is indicated. Primers partly backed out of

the primer pocket indicate excessive head space either in the rifle or the case. In rimless cases be sure to examine the resizing die to be sure it it not setting back the shoulder of the case. Any cracks or mottled or wavy bands running partly or entirely around the case body, should be regarded as incipient ruptures and the case discarded. It is only when cases stretch appreciably that strain marks will show outside. Only experience will help you here which is another argument for moderate pressures.

Rimless cartridges under high pressures or much reloading tend to lengthen and sometimes thicken at the neck. This interferes with normal chamber expansion and can raise pressures to a dangerous degree. This can easily be checked against an unfired factory cartridge and can be trimmed accordingly, with a file or one of the numerous tools on the market. When cases require some force to work through the action, they must be full length resized.

Case life has no set rule. In general the chamber fit, amount of resizing, quality and age of the brass and pressures they are fired at, are the important factors. For instance my 220 Swift loaded to 4000 ft. sec. or better lasts 4 to 6 reloads with neck trimming and reaming on most cases after 3 reloads. Dropping the velocity to 3600 ft. sec. bracket tripled the case life and eliminated most of the trouble. The 257 Roberts at 43,000 pounds pressure gives a little better than standard velocity with about 25 reloads. The 35 Remington lever action at 30,000 pounds pressure gives 1800 ft. sec. and case life about the same as the Roberts with very little full length resizing. So the case life answer seems to be moderate pressures. Inspect cases carefully, noting any abnormal expansion or appearance and you will have little trouble. It's your life insurance.

Primers available today, either rifle or pistol, are of the non corrosive type. The primary function of primers is to ignite the powder charge. The uniformity with which successive powder charges are ignited depends on each and every primer producing heat that reaches charges, with equal intensity, volume and duration.

It is taken for granted by the average reloader that each primer in a box has only to be seated properly to give uniform ignition. This is only true to the extent that under properly controlled conditions they are capable of giving sufficiently uniform ignition to give ammunition good accuracy and keep pressures within safe limits. For satisfactory performance of ammunition both ignition and combustion must be correct for the kind and quantity of powder and bullet weight.

If too much of a powder charge is ignited by the primer, an excessive amount of gas is given off which causes the pressure to rise and the combustion of the powder to be accelerated much more rapidly than it should. This results in developing a dangerously high and sometimes destructive force. This condition is known as over ignition of the powder charge.

Over ignition results from the use of primers that are too strong and hot for the kind and quantity of the powder they ignite. With powders suited for use in full charges, over ignition would be unlikely with any primers reloaders may run across. This condition is more likely to occur with reduced loads. This is because many of them employ thin-web quick burning powders in cases of medium and large capacity. These powders are not at all suited for full charges in such cartridges and are used in relatively light charges. But don't let this fool you. If little too much of this fast burning powder is used, it may become over ignited and burn exceptionally fast, develop-



MEADVILLE HIGH SCHOOL RIFLE CLUB MEMBERS and their coach, Mr. Orlo E. Cox, second from left, inspect an excellent display they constructed during the 1954 Hunt Safely Week last October.

ing a very high pressure before the bullet has time to move. The burning ceases to be uniform. Several charges may shoot alright and the next one send pressures way up. When using coarse grained powders suited to full charges this condition will not exist.

If the flash holes in the primer pocket are not uniform or too large for the combination of primer and powder charge used, the increased volume of primer flash reaching the powder may over ignite it causing the powder to burn more rapidly than intended and raising the pressures to a dangerous level. Since it is impossible to get exactly the same quantity of each ingredient into every primer and as the mixture of present primers is very potent, the variations in their strength can give the same effect of over ignition when heavy charges of powder are used.

The reason loading tables are unreliable is due chiefly to non corrosive primers. Without going into details, the pressure spread with the old chlorate primer rarely exceeded 5000 pounds per square inch. This made it possible to pick a fixed weight of charge from a table of powder charges and with a careful regard for all other loading conditions, to load this with a reasonable assurance the rifle would be in one piece. If we picked a charge to give a mean pressure of 50,000 pounds, the mean of our reloads might run 52,000 pounds mean pressure, the spread taking an occasional flare toward the 60,000 pound level. The shooter was cautioned to start several grains low and work up—slowly, weighing all charges, observing seating depth, etc.

Now contrast fluctuations with the present primers. We know they can sometimes run as much as 20,000 pounds, or more, which is some different from the 2 to 5 thousand spread of the old chlorate primer. It

does not follow that the heaviest charge listed will always give higher pressures or that the spread may be as much as 20,000 pounds, but you can gamble that it will be much more than with the old chlorate primers.

It was this inability to predict the pressures that any fixed weights of powder charges would give that led the powder companies to cease publishing their loading booklets. The use of heaviest charges shown in obsolete tables is out and out dangerous. This all adds up that the average handloader should stick to moderate charges.

Powder is probably the most stable and predictable of cartridge components yet generally the most confusing to the beginner. This is chiefly because of the maze of numbers they are designated by, that tell nothing of their nature. So the first thing to learn is their characteristics and types. It's easy then to pick the number of the powder you should use. There are in general use two types of powder called single base which is a nitro cellulose composition and double base which is nitro cellulose combined with nitro glycerin. The important difference to the handloader is that double base powders generally have a bigger tolerance or working range.

Now if all powders burned exactly alike and burned uniformly regardless of chamber volume, caliber and bullet weight, we would only need one powder to reload all calibers of cartridges. But each powder has its own limitations and peculiarities and has a point in its pressure curve at which it burns best. This point is called its balance point.

Each kind of smokeless powder has a range above and below its balance point at which it will burn uniformly and consistently. This range of pressures is called the powder tolerance. If this range of pressures is small the powder is said to have a narrow tolerance. If it burns well over quite a range of pressures, it has a wide tolerance. So it follows that the wider the tolerance of a powder, the greater its flexibility and number of kinds of cartridges and weights of powder charges it may be adapted to. On the contrary a powder with a narrow tolerance might only be suited to definite weights of charges in only a few cartridges. The tolerance of a powder is a stable property and does not change by firing it in chambers of different sizes and shapes.

The limits of powder tolerance are not sharply defined. No precise pressure above or below the balance point causes an abrupt change from uniform to erratic burning. But such changes are more sharp with a powder of narrow tolerance than one having a wide tolerance. This change is more abrupt at the upper limits than the lower ones for high pressures and temperatures accelerate the burning rate which react on one another to shoot pressures sky high.

If pressures are too low the powder will not burn satisfactorily and accuracy suffers. That is why we have so many different powders.

The average reloader uses two types of loading. One—a moderate loading using a powder made for full charges in the cartridge it is loaded in. He uses it with a weight of charge that developes a mean pressure well below the maximum permissible pressure for the cartridge but above the lower tolerance of the powder. When working with the higher pressures, it is best to use the slowest burning powder that the cartridge will handle as the pressure spill overs are not quite so sudden.

Two—a reduced load developing a medium or low velocity, using powders having too low a tolerance for and not made for full charges in the cartridge it is used in. This is particularly the lead bullet field. Only recommended small charges should be used as they are too fast burning for the cartridge and become very erratic with small charge increases.

Less Known Tools of the Beaver

By Keith Schuyler

PICTURES of the beaver are common enough, but most focus attention upon the amazing dental equipage which enables him to cut down trees for food and dam supports. However, it takes a rather embarrassing view of old flattail to see well the unusual additional accouterments provided by nature which give this animal a unique place in the outdoor scene.

Strong toes set into a webbed foot, coupled with the broad, scaly tail, make the beaver one of the most powerful animals known when in the water.

The second claw on each hind foot is an interesting peculiarity for it is split as two teeth in a comb. This adaptation is believed to be for use in removing lice from the rich fur and for removing wood slivers from the teeth.

Since the front feet are curled tightly to the breast when the beaver is swimming, the powerful hind feet are the principal means of locomotion. They also enable the beaver to stand upright when reaching for branches of low trees and bushes while feeding on land.

The broad, flat tail is probably one of the most unusual physical features found in North American mammals. Covered with a leathery black skin patterned after the scaly side of a fish, the tail is extremely strong and versatile.

Although used in swimming when the animal is in high gear, the tail's primary service is in the manner of a rudder when the beaver is carrying logs and brush. When alarmed, the beaver delivers a resounding smack with his tail on the surface of the water which can be heard for half a mile or more. The tail also serves as a lever or prop when the beaver is busy at work on land obtaining food or when constructing houses and dams.

Difficulty of holding a beaver in a steel trap stems largely from the power of its hind parts. This has been proven time and again to trappers when they found their traps sprung, but empty, or containing only the toe or toes of the beaver. The beaver used in the above photo had previously lost the third toe of its right foot before being caught by Ed Pennington, of Red Rock.

An interesting sidelight is contained in the fact that beaver flesh is held to be excellent eating by some trappers. Considering that the average beaver weighs in the neighborhood of 40 pounds, discarding of the skinned carcass by most trappers represents a considerable loss of meat each year.

. . . The End

BEAVER'S BROAD, FLAT TAIL is one of the most unusual physical features found in North American mammals. It is not used in dam building.





SETH L. MYERS, nationally known outdoor writer and conservationist, was signally honored recently by being named "Honorary Secretary" of the Northwest Division of the Pennsylvania Federation of Sportsmen's Clubs. Taking part in presentation ceremonies are, left to right: Dr. R. S. Dow, Division president; Myers; and Mr. D. F. Paddock.

DUTY DONE, OFFICER'S SYMPATHY PREVAILS

Accounts of generosity and compassion, particularly around the Holiday Season, are heart-warming. This is a true story about a game law violator and a "ruthless" officer. The events took place shortly before last Christmas. Names and localities are omitted because persons concerned prefer it so.

In the last deer season a game protector in southeastern Pennsylvania apprehended a man hunting without license. The hunter admitted he was in the wrong. He satisfied the busy officer he would soon make settlement for the offense, so no charge was made at the time.

But the lawbreaker failed to appear as promised, whereupon the game protector obtained a warrant of arrest and went to the man's home. Hardship on the family was the only reason the wrongdoer gave as to why he had not kept his word The appearance of the home and the clothing of the six children were mute testimony the family was far from prosperous. After the unpleasant duty of serving the official paper and requiring that the fine be paid the officer thought, "What a bleak Christmas this family will have!"

Unhappy over the situation, the game protector related the circumstances to a few of his deputies. They decided another visit should be paid the family. On that trip, instead of carrying a warrant the officers were burdened with clothing, sleds, skates and boxes of toys. So that the Christmas party might be complete, a generous deputy arranged the delivery of a large goose for the family's holiday dinner.

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THE STORY BEHIND THE COVER

FOR most people, peepers, bluebirds, Canada geese or trilliums all signify the rapid approach of an awakening out-of-doors. But for the sportsman, scanning the skies between the storms of late February and early March, the sight of American pintail ducks is as sure a sign as any that spring is really on its way.

Among the first of all the ducks to start north, pintails usually pass through Pennsylvania in early March. Neither late snow nor freezing cold seem to deter their response to the age-old migratory call. By early May their speed and endurance have carried them to their circumpolar breeding grounds; Alaska's northern wet-lands hold once more the promise of another pintail generation. Yet, strangely enough, the same ducks which formed the vanguard of spring migration, often bucking arctic headwinds filled with snow and ice to do so, are the first to flee the approach of northern winters. By early October they are winging their way south once more, heading towards the warm seacoast of the southland to spend the winter.

Few other ducks are more easily recognized on the wing or water than the drake "sprig." His streamlined form, long slim neck, pointed wings and rapier-like tail all confirm his great speed and grace. And although this speed is not as great as most duck hunters have been led to believe, it is fast enough to save many a pintail that wasn't led far enough. The "greyhound of the air" cruises at about a mile a minute but can probably make 90 miles per with a good tailwind. And for any duck being shot at, such speed is extremely valuable—at least in his own opinion.

Like the rest of the puddle duck family to which they belong, pintails are wary and alert, springing vertically upward from the water at first signs of danger. They often bunch closely together as they rise, however, making them vulnerable to the gunner in the blind. But for pass shooting, pintails are supreme. They usually approach the decoys at great height, circle cautiously, and watch for the first false move in wooden block or artificial blind. Then, if all appears well, they descend like meteors in a zig-zag rush, finally gliding on outstretched wings towards the decoys. It's a flight bound to raise the blood pressure of any avid wildfowler.

One look at this month's cover, however, should convince anyone, even those with no hunting blood, that there is living treasure in America's wetlands. As Margaret Blair has so beautifully and accurately captured on canvas the rise of this pair of pintails, so must anyone who has seen the same sight in the wild realize marshlands are worth saving.

PENNSYLVANIA
Game News

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GEORGE M. LEADER, *Governor*

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★

Cover Painting
By
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Editorial . . .

Why Save A Swamp?

WATERFOWL slowly circling in a misty sunrise--a muskrat making like a submarine—the myterious cries of songbirds at sunset—the wind sighing through reed and rush—a half-world somewhere between land and water, untamed and unimproved but seldom unnecessary.

Yet there are those who fail to see these values in a swamp. For them, wetland is waste-land. For them, a marsh is only a breeding ground for mosquitoes, only a collecting point for pollution. With bulldozer and back-fill, with drainage and debris, millions of marshland acres have been destroyed.

National Wildlife Week this year is aimed at saving our wetlands, at showing America there is some value in a swamp. In an era of exploitation, lucky the marsh that has no vigorous enemies to drain it, fill it, or smother it in oil. Millions of dollars have been spent and thousands of dreams built trying to make something else out of swampland. But in most cases, farms formed on quagmires have not proven profitable. In nature's plan, marshland was meant for mallards and muskrats, not for wheat and waste collection.

These, then, are a part of America worth saving. Marsh, swamp, slough and bog are havens for wildlife. They are a refuge for the creatures and plants which live there. But more than that, they are a refuge also for all those to whom a few hours of solitude with the wind and waterfowl, the furbearers and fish, are profits past computing.

For the sportsman and trapper, for the angler and ornithologist, and for all those who find rest and relaxation in natural beauty, let's make certain the public benefits will really outweigh the damages before sending any more of our dwindling wetlands down the drain!



What Good Are Wetlands?



WHAT are wetlands?
Of what value or use are they?

What part do they play in our American system that makes them worthy of being emphasized in a nation-wide program during March 20-26, the 1955 National Wildlife Week?

National Wildlife Week is a nationwide educational campaign, sponsored annually by the National Wildlife Federation and its state and local affiliates. Its purpose is to focus public attention on problems of natural resource management and the pressing need for better conservation practices.

"Wetlands" is a general term meaning marshes, swamps, sloughs, bayous, lakes and similar natural water areas. "Saving Our Wetlands" is one of the most urgent conservation problems of our day—one which, if allowed to go unresolved, would have far-reaching effects on our American way of life. It is a broad and complex problem, having many ramifications. Each American is indirectly involved in that he would be affected by the eventual water shortage that will result from further wetland destruction. But directly and immediately concerned are those who depend on wetland areas for their living and recreation—farmers, fur marketers, hunters, fishermen and others.

Conservation, unfortunately, competes with many interests in our modern living. The average man and woman finds little time to reflect on the disastrous effects of resource depletion that is going on throughout the United States and the world. Most of us have not yet fully appreciated the fact that the prosperity and economic health of a nation depends on its natural resources. Many people fail to realize that depletion of our vital water, soil, mineral, plant and animal resources can eventually bring poverty of the kind we see in other parts of the world.

Americans, it seems, are slow to profit from the experience of others. Many otherwise well-informed persons do not seem to appreciate the fact that the main difference between our lands and those of the impoverished

countries in Asia, Europe and Africa is only a difference in time of occupancy and misuse.

Until the coming of white men, human populations on the North American continent had a comparatively small influence on the landscape. Nature healed faster than man could destroy. But now the situation is reversed. Destruction of resources is accelerated to the point where in two or three more decades, we can see the end of the natural bounties that have made our nation the wealthiest in the world.

Where Have Our Wetlands Gone?

Drainage, filling-in and pollution have taken the heaviest toll of wetlands. A U. S. Fish and Wildlife Service report reveals that 75 percent of the 120-million acres of marshes and wetlands originally found within the United States have been destroyed.

Wetlands are suffering severe losses from pollution. Each day, untreated wastes equivalent to that from 150 million persons are being discharged into our waters. Pollution destroys animals and plants from which income and recreation can be derived. This loss can only be stopped through citizen action for the proper enforcement of water pollution at the local, state and national levels.

Drainage of lands for agricultural purposes has accounted for the most widespread destruction of some of our best wetlands. The most devastating effects of this are seen on the small lakes and potholes of the Midwest. Over 32,000 of these are being drained annually in the Dakotas and Minnesota. In the five years from 1945 to 1950, 16 percent of Minnesota's small ponds and lakes were destroyed. This drainage has had disastrous effects on ducks and geese and has resulted in a great loss to the state's recreational areas.

Even more serious are the effects of drainage on water tables which in most areas have been dropping rapidly. Until recently drainage of vast areas of

NINETY-FIVE PERCENT OF THE AMERICAN FUR HARVEST, best typified by the muskrat, is produced on the nation's wetlands.



wetlands for agricultural uses has even been subsidized. Augmented by modern-day mechanical equipment, this has been carried out on marginal lands of low potential despite present surpluses of the crops that were to be produced. In a number of instances the lands, once drained, have proved of little value for farming.

Many swamps and marshes have been drained in an effort to reduce the health hazards from mosquitoes and other insects, only to result in better breeding conditions for these disease carriers. Now it has been learned that control of water levels, through use of dikes and other measures, will effectively eliminate the insect problem while increasing the usefulness of these areas for recreation and production of wildlife.

In some sections of the country, waters that formerly flowed to wetland areas are now being used to irrigate farming lands. This is rapidly causing some of our most valuable marshes and swamps to dry up. Vast acreages of natural wetlands in California, Louisiana and other "rice" states are being used for agricultural production. This further reduces the areas from which the "natural crops" previously harvested from these wetlands can be taken.

Filling-in of marshes, swamps, backwaters and other wet areas is another prime example of such misuse. These areas have a definite place in our land-use pattern and they should not be destroyed through use as dumping grounds for wastes. Many large cities are still using wetlands for disposal of garbage—a practice which leaves only pollution and unsightly scars on the landscape.

Wildlife Values of Wetlands

Last year over 46 million visits were made to recreation spots administered by the National Park Service. In addition, some 35 million people fished, hunted, hiked and enjoyed outdoor pastimes within our National Forests. The annual sale of 28 million hunting and fishing licenses also demonstrates

BIRDLIFE OF WETLANDS is often spectacular and always interesting. This American egret at the nest symbolizes the esthetic values apparent in many swamp areas.

Photo by Masklowski & Goodpaster





OPL Photo by Martin Bovey, Jr.

OVER TWELVE MILLION ACRES of wetlands are urgently needed to maintain North America's waterfowl populations. This blue-winged teal and her brood would never have been photographed unless there had been wetland to produce them.

the interest in the outdoors which takes the American public to our country's stream and lakes, fields and forests. In terms of dollars, the expenditures of sportsmen alone exceed $9 billion annually, placing this industry well ahead of those of filling stations, dealers in farm equipment, and the cattle or hog markets.

The harvest of ducks and geese by nearly two million Duck Stamp purchasers is another example of the use made of wetland crops. Yet it is generally accepted that waterfowl production cannot be maintained at the necessary level in North America unless strategically located refuges and management areas are acquired to offset widespread wetland destruction. A preliminary inventory shows an urgent need for 12½ million acres of marshlands to provide breeding, resting, and feeding areas for waterfowl along the four continental migration routes. To date, less than 3½ million acres of natural wetland areas are included in our refuges and management areas. This leaves a balance of 9 million acres that must be purchased by the Fish and Wildlife Service and the state conservation departments if the minimum waterfowl requirements are to be met.

Not to be overlooked in considering the economic importance of wetlands are their annual yields of furbearing animals. Ninety-five percent of the American fur harvest is produced on the nation's wetlands. This represents a national industry worth millions of dollars, even in this day of low fur values. Dr. Lee E. Yeager, Fish and Wildlife Service biologist, recently estimated that the total income from North American furs averaged $50 million. In the late 1920's when prices were up, this figure represented nearly $300 million. In considering the fur resources of North American wetlands in terms of capital value during normal price periods. Dr. Yeager conservatively calculates that they are worth nearly $2½ billion.

These are but a few of the reasons for wetland preservation being featured in 1955 National Wildlife Week. The privileges we enjoy under our democratic system are many, but there are few which yield greater satisfaction than participation in a movement to restore and perpetuate our outdoor resources. From this kind of endeavor we become better men and women—as do our children and grandchildren that follow us. Through our efforts now, they will not be denied the experience of outdoor living nor the bounties which we can insure them in achieving sound conservation policies.

Outdoor Reveries



Wind Month

By John H. Day

THE night was dark and cruelly cold, though it was early March. Across in the gloomy ravines of the forsaken hillside beyond the wide valley creek a deep-toned lonely cry resounded. It was like the fitful baying of a dog in the distance, only that it was too wild and eerie for that. Then there was silence for a space and a hair-raising scream rang out.

That awesome screech was blood-curdling to the countryman, but it was reassuring to the great horned owl snuggling down on her two great blotched eggs to keep them secure from the cold, for it was the voice of her mate hunting. Sailing silently on bat-like wings he was beating the open edges of the thickets, hoping to find a pheasant at roost. That deep "whoo; hoo, hoo, hoo; whoo, whoo," all on the same note was his complaint that bird dogs and pump guns are making the game birds so scarce.

Perhaps that eldritch screech was one of triumph over the sudden death of a rabbit, for the big night watchman is tremendously rapacious and will eat any living thing which he can carry away in his claws. He'll even smack his grisly bill over fresh-killed skunk, aroma and all.

It might, too, have been his method of expressing ecstasy over the nest and the promise of spring which the horned owl alone has the courage to anticipate with nest-building in these raw and barren days when winter seemingly still has his grip firmly set on us. Oftentimes his housekeeping arrangements are completed by late February. No other bird does that hereabouts, though farther north the Canada jay also lays eggs about that time.

No one knows on what trees he cuts the notches of the passing days, but surely the horned owl's almanac is as reliable as the Old Farmer's, and he knows the nearness of the spring. The barred owls will build in late March and soon after April Fool's Day the woodcock will come stealing north to place queer, pointed, blotched eggs in some little hollow just above high water in the swamp.

The crows are still more cautious. You will hardly find eggs in their nests before the fifteenth of April. Yet they all know when the spring is near. Somehow the message has come

to them. It is not the fact that a south wind has blown, for this may happen at anytime during the winter. It is apparently something that reaches them on the wings of this same south wind.

The clear cold night the horned owl brooded those eggs so carefully was lighted by the whole panoply of stars. But toward mid-night a purple blackness grew up all about the still sky and blotted out all things in a velvety smear that sent even the fierce hunter to perch beside his mate. There was then no breath of wind.

The faint air from the north that had brought the deep chill had faltered and died, leaving its temperature behind it. The air stung and the ground rang like tempered steel beneath the foot. The air left in the countryman's nostrils a quality that never winter air had a right to hold. To the man who knows the temper of the open field and forest by day and night the promise of spring was unmistakable, though so subtle as to be difficult to define.

The promise may be long in finding its fullfillment, of course. The snow may lie deep and the frost nip the willow catkins, but that does not take away the promise that set the great horned owl to laying her eggs in the opening on the cliffs across the creek.

March is no spring month. It is just a blank page between winter and spring. But if you scan it closely you will find on it written the promise that countrymen everywhere are seeking.

Sometime during the night the wind came up. The roar of it woke me out of my dreaming and I lay there snug and warm while the blasts hurled spates of cold rain against the windows. March was on the prowl and the gray clouds hastened to shut out the sun while the blusterer huffed and puffed his way all through the dawning and well past the noon hour. The countryman revels in the wild melee when "gallops the stallion wind, unreined again in the wild flight from winter into spring."

When the March wind takes the bit in his teeth and decides it's time to do the spring housecleaning, nary a corner of the countryside escapes his searching fingers. He swoops through the woods with mighty scalpels, tapping on oak and maple and beech to hear if the heart is sound. He tries every trunk and inquires about its roots, lops off dead branches ruthlessly and sends weaklings sprawling in the forest aisles.

The wind of the Ides is a clarion wind. He sends his trumpeters ahead of him along the timbered ridges. Theirs is no muted music, but the full-throated melody of massed bugles announcing a field-day of the elements.

There is something of the border collie in the March wind. When he tires of his eternal pruning and policing among the trees he plays at shepherding the dead leaves. The countryman notes where he has herded a whole flock in an enormous bank on the edge of the timber.

Under the lash of the sportive wind they leap and dance with restless mischief, in an invisible pen. Everyone of them quivers with a desire to escape. The dogs of the air bay at them with shrill delight, and go racing after them when they break loose and go streaming out like a flight of birds, to round them all up and land them back again safely in the fold.

The March wind brought up heavy reinforcements, to hold its lines against increasing pressure from the south. All day long the howling legions hurried by above the valley. Our house thrust up a wooden shoulder and split the blasts into divergent streams which eddied and moaned under the windows. Far into the night we could hear its braggart



troopers striding through the midnight sky.

Somewhere off there to the south raging equinotial storms gave the new-born spring a cold rebuff. In rear guard action March reached deep into his stockpile and came up with icy javelins of driving snow to ride the gale. Angry clouds blotted out the stubborn moon and when the chill dawn broke on the first day of spring the thermometer on our back porch stood at a cold 23 degrees.

There is mystery in the wind, mystery and awesome power and lovely, lilting music. The March wind can sing a battle song one night and come up the following morning softly wooing the misty-eyed April. He can sing a sleepy song, just living in the trees like a gentleman of ease, and he can keen a crying song with all the latest wailing effects.

But he is at his best when he stands rudely in the doorway, refusing entrance to the springtide, mouthing his fearsome battle cries and throwing his weight about in magnificent display of churlish temper. There's only one thing wrong with the March wind as a strategist and mighty warrior. He wins all the battles but the last one.

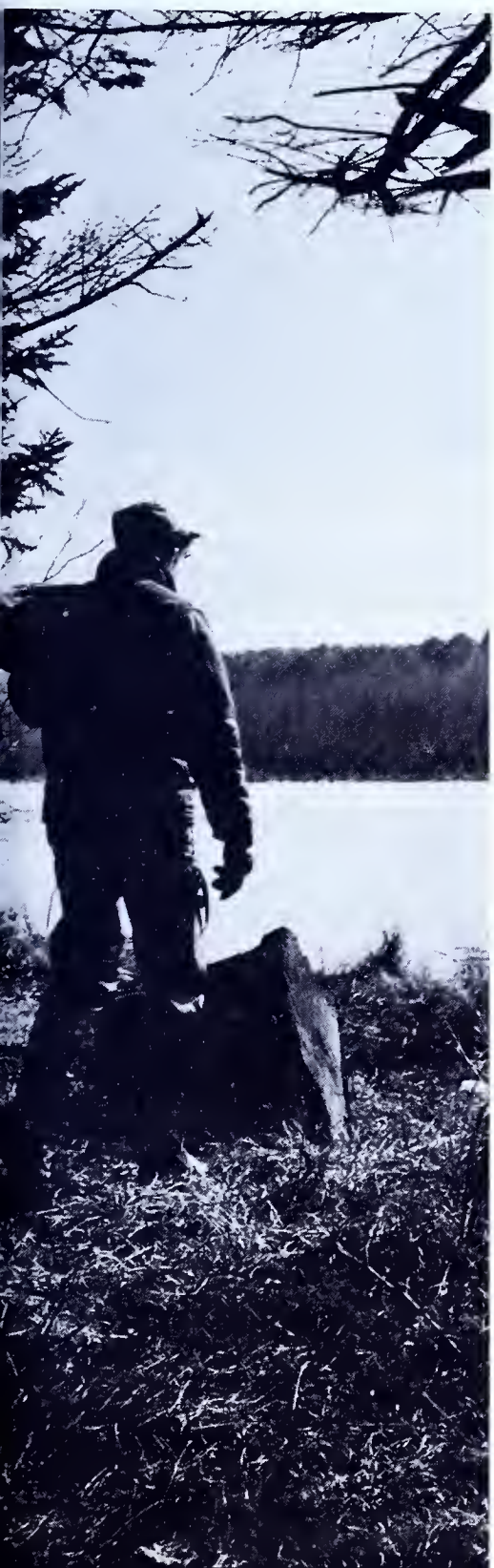
Somewhere during the melee and tumult he lets his guard drop. There is a moment of respite, while he recoups his forces. And there, suddenly, born on the arrow sharp wind, is blown the fragrance of every flower that summer has ever known. It is as if the muddy battle ground, caught by surprise, reveals the sleeping gardens hidden there. Hidden there is the soft answer which has ever turned away the wrath of the blustery March wind.

Antidote For High Speed Living

In one short paragraph Paul M. Barrett, of the Michigan Department of Conservation, clearly tells why millions of Americans are going outdoors for enjoyment, and ties in reasons for the preservation of natural resources. Barrett says:

"Aside from life itself which comes from the soil, there is peace of mind which comes from forests and fields, lakes and streams, sunshine and fresh air and from living things associated with the land. Wholesome outdoor recreation is a lubricant for high speed living without which the human machine may well grind itself out of existence. So it is vital to the well being of people that land be so used that it will feed, clothe, house, produce raw materials for industry and provide recreation."

Traveling The Beaver Trail



By Don Shiner

BEAVER trapping holds strong appeal to many sportsmen in Pennsylvania. Certainly this is not unusual: it is part of priceless American heritage, and was one of the foremost occupations in frontier days. Beaver trappers then were the advance guards of early settlers, blazing trails deeper into the vast forest regions in search of prized pelts from this furbearer. But it was not without untiring efforts on the part of the Pennsylvania Game Commission and interested conservationists that beaver trapping continues to bring sport to thousands today.

Pursued and trapped vigorously the beaver colonies in Pennsylvania appeared near extinction around the year 1850. Closed seasons and heavy stockings after World War I then helped the furbearer to stage a remarkable comeback, becoming increasingly plentiful to warrant a season in '34. Some 6,000 pelts were taken in that early season, with a total of 42,000 taken since. By count 3459 were again taken during the past '54 season. Striking statistics to contrast with the reality that a century ago this furbearer was on the road toward oblivion like the buffalo, carrier pigeon and ivory-billed woodpecker.

Typical of the thousands who seek adventurous beaver outings in Pennsylvania is William Shortz, better known as Jinx, from Luzerne County, pictured here on these pages. Like the countless others who feel the ancestoral urge of trapping beavers, it is not without keen pleasure that the opening of the season finds this

BEAVER HOUSE AND FRESHLY PEELED ASPEN LIMBS indicate the activity in every "flat-tail" colony. Game laws prohibit setting traps on such houses in Pennsylvania.



trapper journeying across the frosty highways to a wilderness district in Sullivan County. Pursuing the beaver trail with few interruptions since the 1934 season, Jinx covered swamps, waded trout streams, climbed steep rocky embankments and hiked along shores of dozens of beaver dams and ponds in search of likely locations for a trap line. The going was rough, weather cold and stimulating, the hikes long, tiring yet invigorating, but he found an immeasurable amount of fun being afield and anticipating the catch of a few prime beavers. Not that beaver trapping remains the profitable venture it once was considered, but the thrill and wholesome fun is there just as it was when frontiersmen hewed trails to beaver ponds which early travelers followed.

CANALS USED IN FLOATING LIMBS to the house or dam are often good sites for traps. Here Jinx and his son make such sets.

TRAPPED BEAVER MUST BE HANDLED CAREFULLY since its tremendous strength can result in the animal pulling itself free from the trap. A quick, but accurate, tap on the head is method used by some trappers to still animal.

MEDIUM SIZED BUT "PRIME" BEAVER is admired by Jinx. Price offered for beaver pelts in 1954 averaged between $15 and $20.

ONE COMMON BEAVER SET involves placing trap on a rock only a few inches under water. Beavers climbing onto stone drop front feet into trap. Rock placed at edge of trap and stone platform guide beaver across trap.







Trail of Two Deer

By Jack Anderson

HAVE you ever heard a wounded deer crying? Remembering the sounds of that snowy December afternoon so vividly, I still am stumbling for description. Take a woman screaming for help in the night. Add the melancholy howl of a beagle, lost far from home: Into these sounds mix the calls of a bobcat from the swamplands. While listening, imagine the mountain country, where sounds grow till all voices are as giant's voices, where in December wild winds blow and you know Winter has its fists doubled; then perhaps you hear those mournful cries as Chuck Bradley and I heard them.



Chuck, who carried a .22 rifle today to shoot crows, pointed toward that awful soul-pained sound.

"Some poor shot missed his true mark," I remarked.

"Let's walk back to camp. Makes me sick to the stomach."

"You go on. This happens to be the last day of the season and the guy who wounded that doe might not follow her up."

So Chuck Bradley, who, like myself, lives in the Poconos, started home in that long easy stride he has, and I twisted myself through clumps of frost-curled rhododendron and up a rocky ridge of grey birch, maple, and nearer the top, rock oak trees, the wounded deer quiet now, the snow thickly riding the winds and tickling my nose and dropping softly so that all flakes falling were as one light cat's tread. On top of the ridge, blowing some from my climb, I looked into the wind as a deer-hunter looks, and in the snow I caught a brown movement and stood still, watching.

One whimper—then I knew I had spotted the wounded deer. The animal halted, and through falling snowflakes I saw the head turned from me, the white tail up alert, the ears cupped into the wind. Two slow steps and I was behind a fat rock oak, peeping as a child playing hiding games peeps, the cold 30-30 trigger against my finger. I was tempted to fire, yet there was that hesitation, the hesitation all hunters have until certain of a true legal mark, and while waiting, the deer turned so I saw the white hairs around the eyes and the full body and saw the animal was walking toward me.

Just then I saw the full truth. The deer had been hit, of all places, on the right rear hoof, so her body wobbled as you wobble with one bad leg, and it wasn't pleasant to see the mangled foot and the blood leaking out on the white snow. "Poor devil," I whispered against that cold wind. "Maybe you'd live, but you'd be better off dead."

She hadn't scented me, so slowly I pulled up the Winchester, and it would be all over very soon.

It would have been, for the range was less than thirty feet, dead range, but I heard the brush snap and slanted my eyes to a right angle from the rifle barrel and saw the second deer walking. I've hunted deer for fifteen years, and though I knew it happened sometimes, this second deer was the first September-born fawn I've seen.

She was the cute, curious-eyed, long-eared kind you see copied in colored china on novelty shelves, and it was clear the way she playfully pranced after her mother, that she wasn't thinking of danger or of death.

Get soft-hearted? I guess so; but I should have known and really did know that Nature wouldn't turn any soft heart to that fawn who was born too late in the season to live through a Pocono winter. When you're mixing with wildlife, a soft heart isn't always a good heart. There I stood, my rifle slowly certainly tipping barrel-end down toward the snow, till the mother doe caught my smell, put up her ears and her tail, and ran away limping, the fawn galloping after in its innocent playful way.

So I walked back to Chuck Bradley's house, where he sat pondering over a bloody stump of deer-leg, pointing, it was clear with concern, to teeth-marks along the leg. "Second time I caught my beagle dog Bucky with a part of a deer. This'n my brother-in-law killed opening day and threw the leg back in the brush. Bucky fetched it in, all chewed up."

"They tell me you can't cure a dog once he starts chasing deer," I said. "But heck, Bucky's too gentle a dog."

In our mountain country, roaming dogs are deer-enemies, especially in Spring, when deer are weakened; I'd seen neighborhood dogs tear down and kill deer, as you've heard of savage wolves.

Now it was time for Bucky's feeding, so Chuck gave the beagle his dish of soaked meal and we heard him greedily eating as we sat by an open fireplace, the flames lapping nicely, Chuck listening to my story.

"Just hope I can trap that big bobcat I've been after all fall," Chuck Bradley said, and you knew he was honestly excited. "That's the varmint might get that fawn—or even the mother, if she gets stiff-legged."

I was full of doubts and said so. "Looks like a froze-up winter coming and I don't think they'll pull through. Killing a bobcat isn't the answer."

"I don't believe them notions about deer starving in this country," Chuck Bradley said. "Plenty of laurel for them to eat, if nothing else."

"Why was the fawn born late?" I asked. "It isn't normal. Must be too many does or something wrong."

Chuck Bradley laughed and said, knowing I read plenty, I reminded him of those technical guys who learn the mountains reading about them in steam-heated offices. You know, lesser friends of Chuck Bradley think he's as tough as his beard, which is like trap-wire; rough as his voice, which could come easily enough from a bear's throat. And that impression pleases Chuck Bradley. But you don't fool an old hunting crony—I've seen his eyes when he looks at his dog Bucky, or when he sees a deer standing off in the forest. He's a bachelor, and I always say a man has love in him which he'll put somewhere.

As for me—I'd rather roam the woods than anything else, but there's still the wife and the mortgaged house, and I forgot deer and went back to my job in the lumber office. It began to look like the kind of winter old-timers mourn over, though they stay close to the fire now when big snows come: you know, snow, ice, winds, sub-zero, so you think you'll never be warm again.

I was happy when, on a cold clear early February afternoon, our Sunday dishes clean and stacked neatly away, Chuck Bradley came to the house with that good excited look on his face.

"Come on, dive into your red woolens. I got Murphy's old bobcat hound and I'm going back in the swamp."

Probably it was eighty near my open hearth and it was fifteen and a sharp wind blowing in the woods, but you made a good guess if you figured I'd be back in that aspen swamp in another hour. The snow was six inches deep but we crunched along with our high-powers under arm, feeling the same kind of excite-

ment you saw swinging in that old hound's tail.

The hound was named Chung, big, ugly and the color of strong coffee, and the kind of dog who always looked, when on a sniffing tour, as if he smelled something important and had you on edge. Through that bleak swamp Chung ran, while Chuck Bradley and I looked over some fresh-cut deer tracks.

Each knew what the other was looking for, but all of these deer (and three had winded us and headed into a high rhododendron jungle) had four good legs and there was no fawn among them.

"Lookit here," Chuck Bradley said, pointing.

Bradley was pointing out a fact I'd noticed shortly after we walked into the woods: every low branch had raw shreddy tips where deer had been browsing, and too, many of the laurel's deep-green, waxy leaves had been clipped off.

Laurel, I knew, was bitter, and filling, but not nourishing. While Chung ran the swamp-snows, we didn't know exactly where, Bradley and I put our weights on a couple young red maples and he cut the trunks with a hunting knife till we got them to hang down, so deer could nibble the branches. It was my idea; Chuck Bradley said there was plenty of food in this swamp, even if human eyes couldn't see it. Chuck Bradley hasn't a creed I know of, but you got a feeling he thought God wouldn't let wild creatures die.

We'd just downed the second red maple when Chung, farther off than we'd thought, let out his husky whoop from the hollows, and Chuck Bradley picked his rifle from against an oak stump and said, "He's on the cat."

Well, I've been on fox chases, and rabbit chases, and coon chases, but I've never felt the tenseness of that cold afternoon in the swamp above the wind's howl, listening to Chung bellowing after the bobcat—especially when Chung would let out a whoop so the wind brought it direct to you and gave the idea the cat was coming in.

But after an hour's chase, the cat hadn't treed, nor had we seen it. The sun was getting low and I think that wind would have cut through an unshorn sheep's thick wool. But do you ever notice, when a good chase is on you're always *certain* your fingers won't get too cold to squeeze the trigger?

Standing fifty yards beside a deer-trail, hidden by rhododendron, Chuck Bradley was quiet as a dead man. Waiting.

I hadn't heard Chung barking for five minutes. Then he gave a deep throaty yelp nearby and I was carefully scanning the snows, my heart kicking some, when Chuck Bradley's rifle snapped. Just once—then some quiet; and then the worst dog uproar you ever heard.

I heard Chuck Bradley talking excitedly to Chung. I ran in the direction of the sound, my feet slipping along the boulders under the snow.

It was over, the big dead cat bleed-



ing and stretched in the snow, tongue out, Chung snapping at the still throat, when I approached Bradley.

You know, sometimes you're certain what a man's thinking is, by eyes, expression, position of lips Chuck Bradley was thinking: If you ain't killed that fawn you ain't going to, Mr. Bobcat. I've done a heap of good, today.

That bobcat weighed twenty pounds and everybody saw him hanging back of Lew's general store in the smoke house, stiff with cold. They talked about the bigger cats they'd seen in their times. People in the mountain country talk plenty in the snow season, because what else can you do? As for me, I'd rather talk hunting or fishing than anything else.

After that Sunday afternoon, the big blow, the big snow, came swooping and moaning down from Canada way. This one, we knew, would stay on the ground till late Spring, and under the laurel, hemlocks and rhododendron, we'd be packing our April trout in snow. I missed five days' work, snowed-in, spending part of this time at Chuck Bradley's place watching him make a new gun stock. Bradley had put out three feeding stations stocked well with yellow field corn and we put on snowshoes after the storm and looked over the shelters, little wigwams of brush and leaves really, but there wasn't a deer-track near. We saw no deer-tracks and Chuck Bradley said he guessed the deer were finding their own feed but I worried that they were yarding up somewhere in the swamp.

It was kind of fun, loafing, but the wife howled; so I put on my car-chains and went back to work next morning. I saw Chuck Bradley snowshoeing up a woods-trail on my way back to work. This was late February now, and beaver trapping was on . . . for the lucky guys with leisure.

Best thing about February, there's only twenty-eight days. I started tying trout-flies and that took me well into March; from there I started counting the days till trout season's opening. You never saw such a stubborn winter—the snow melted some, but now the ice storms started, and I told myself surely this would kill off the deer.

Next morning there you were, in Stroudsburg's newspaper. A local pilot had sighted deer yarding in several parts of the Poconos—starving, he said. We have one Saturday of the month free at the lumber yard, and luckily, this happened to be my Saturday. It was cloudy but mild, and Chuck Bradley and I put on our jackets we'd brought back from the army and got into our hightops and started into the woods. Bucky, Bradley's beagle, watched us from his pen and you never heard such crying. He jumped at his wire, the thin tail whipping, and nearly cleared the fence several times.

"Got to pity the poor dog," Chuck Bradley said. "He's sick of this lousy weather as we are."

"He sees you have your .22 I guess. Thinks you're going hunting."



Then we stopped talking, there being a big hill to climb and both of us slipping plenty in the dirty wet snow. Ice storms had broken down many trees, particularly birches which never stand such storms, but no animals had been feeding on the branches. The forest seemed dead until finally we crossed one fox-track, very dark and so probably at least a day old, and later on three crows circled the sky a half-mile beyond.

Of all seasons, the woodlands are most drab in this late winter; the snow is rotten grey, hardwood trees hemlocks and pines seem tired of wearing their green. You smell rotting stumps, nothing else. You get the feeling that the forest, like yourself, hopes for something better.

We reached the swamp and never saw a single deer-track. Back in the swamp the sun seldom reached, and the snow was knee-deep and had a crust, so we made clumsy noises as we walked.

Suddenly Chuck Bradley said, "Listen."

I stood still and heard the sounds of heavy animals running in the snow. Then, about a hundred yards ahead, I saw white tails bounding.

"Deer," Chuck Bradley said, "and like I told you, they ain't starving."

So we started walking again and sure enough, more deer flushed, running in several directions, and soon I saw a sight I'll never forget. There was a fifty-yard circle of dirty, mashed-down ice and snow, and in this circle every sapling showed white because the bark had been chewed through, and bits of bark lay like pepper in the snow.

I'd heard that in severe winters deer would herd together, afraid of the cold and deep snow, but I'd read that by the comforts of a fire, and here was awful, naked truth. I saw a doe running and she was bones, nothing more, and you remembered a sleek running animal in the fall and you were sick.

I was going to say "Isn't that an awful sight" but then I saw the fawn running, dizzily in circles, saw her run blindly into a tree and fall, heard her sick whimpering. Chuck Bradley ran toward the deer, and somehow I knew what he was going to do, and knew that it was right. The fawn tried to get on its spindling legs, but the legs spread in opposite directions and she fell in the snow, her skinny body quivering.

Chuck Bradley worked the slide on his rifle; I heard the click as he cocked it; then the hollow spit of the .22 rifle and the fawn relaxed, as if very glad to die.

"That's *the* fawn," I said. And I remembered how she pranced after the wounded mother that snowy December day, and remembered that she'd looked too cute to kill.

What, I wondered, had become of the doe?

"Listen," Chuck Bradley said again.

A hound was barking—and near.

Now after you've hunted several seasons with a dog, you know his peculiar trail-barking. Chuck Bradley knew that I knew, and I knew that Chuck Bradley knew, but neither of us spoke, just walking fast through the woods. The dog's bark was insistent, now. I saw a deer-track, and saw that the right rear hoof did not make the usual forked print of a deer, but looked like a crutch-print in the snow.

Chuck Bradley paused, and whistled. Then we hurried on, stumbling over dead branches and stones. Suddenly I remembered Bucky chewing on that deer-leg last fall, and I shuddered. I had seen the work of dogs on weakened deer.

We worked our way up a ridge and on top, paused and looked around. You saw down in the next valley and saw dog and deer running against the snow. Frantically Bradley whistled, and called. Now the dog was very near. It must have been terrible for

Chuck Bradley to see his dog make the final leap and tear at the deer's hindquarters.

You just couldn't believe that dog was gentle, affectionate Bucky, as good as any rabbit dog around. The deer tripped and fell, and it wasn't too clear on the ground but you knew by the sound and the thrashing too that Bucky had dug in somewhere with his teeth.

Chuck Bradley could have killed himself, the way he ran down that snowy slope. I ran fast myself, but Chuck Bradley, face flushed and with a look of pain, had pulled Bucky off the deer and was holding him when I arrived.

First I looked at that right rear leg . . . and I knew the tragedy was ended, for this was the doe I had not had the heart to shoot. Now I was certain that Nature wouldn't turn any soft heart to mother or fawn.

While Chuck Bradley held Bucky, who was growling and digging hard to get at the dying deer, I picked up my partner's rifle and gave this second deer peace.

Bet the fat guy from down south who'd answered the newspaper ad thought Chuck Bradley was a tough one, the way he took the fifty dollars and sort of pushed the dog-chain into the fat guy's hand, as if he'd been waiting a long time to get rid of the beagle.

I thought: Good old Bucky, there'll



be rabbits there but no deer to chase. So long, Bucky. I ain't going to make a fool of myself, petting you and maybe saying something silly.

Then Chuck Bradley turned his back, and I remembered him when he'd said: "I think more of Bucky than half of you do your women." Then Chuck Bradley went into his house alone, and I stood outside, thinking of other things but talking to the new dog owner, not of hunting or fishing, but of the garden I'd be starting to dig soon.

Right now, I didn't feel like talking outdoor sports.

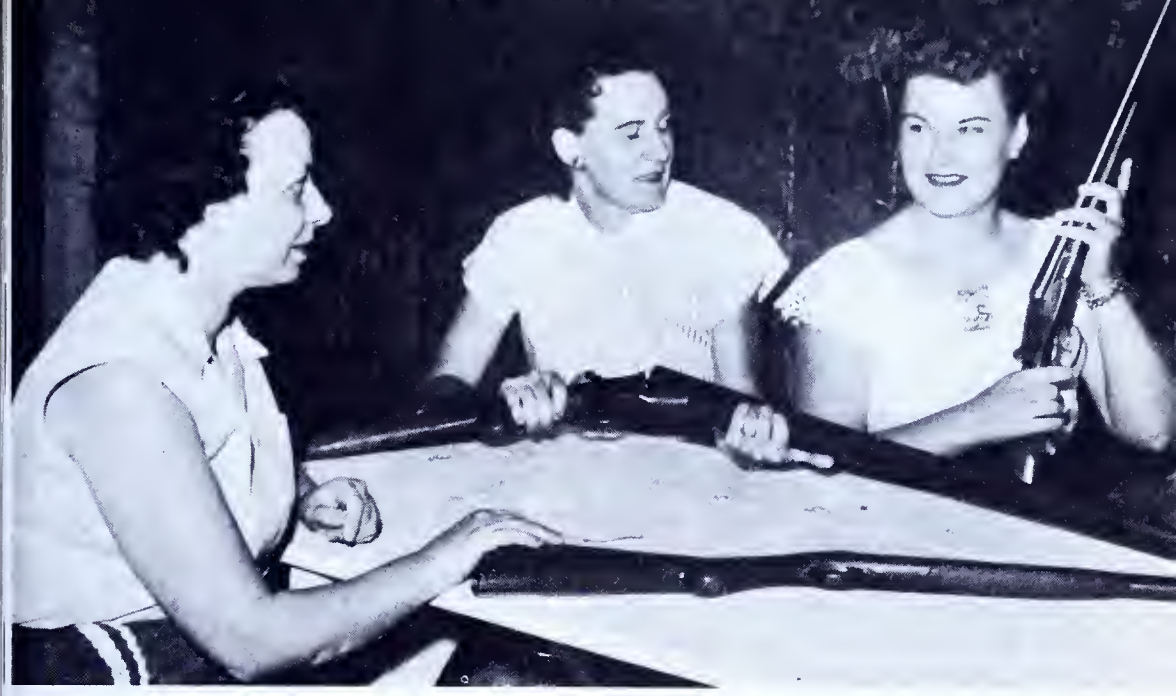
. . . *The End*

UNPROTECTED BIRDS AND ANIMALS

In Pennsylvania the following birds and animals are presently unprotected. They may be taken without regard to number by persons hunting lawfully.

Animals: chipmunk; foxes; opossum; skunk; porcupine; weasel; raccoon; woodchuck; wildcat.

Birds: blue jay; crow; English sparrow; European starling; kingfisher; Cooper's hawk; goshawk; sharp-shinned hawk; great-horned owl; snowy owl; bronze and purple grackles.



FIRST OFFICERS OF FEMME ROD & GUN CLUB, left to right, are Mrs. Olive Waterbury, financial secretary; Mrs. Wilma Benka, recording secretary; and Mrs. Bernadine Kunkle, president.

Ladies First for Pennsylvania

By Harvey R. Frantz

THE April 1954 meeting of the Northampton County Federation of Sportsmen's Clubs made history, and probably started a trend, by selecting a newly formed county club to membership. What made the event newsworthy was that the 29 clubs of the Federation admitted an all women's conservation club to their organization. To be sure, wives and sweethearts of the members of the Federation have long been active in the various club events and field days but never have they organized before with their own officers, meetings and projects.

This group which is known as the Femme Rod & Gun Club was organized in October 1953 as a result of a meeting called by Mrs. Bernadine Kunkel, now president of the club. The first meeting drew less than ten interested women; the second meeting had an even dozen while the November meeting started out with 18 paid up members. At present the club has a membership of 34.

The original group consisted of Mrs. Wilma Benka, Mrs. Marion Bellman, Mrs. Olive Waterbury, Mrs. Geffer, Mrs. Carrie Geffert, Mrs. Eleanor Ferraro, Mrs. Ruth Knitter and Mrs. Kunkel, all from Easton. Members now hail from Bethlehem, Nazareth, Northampton, Pen Argyl, and Mt. Bethel as well as Easton. They meet once a month, except for executive meetings, which are held on call of the president, at the Palmer Township municipal building.

Their ages vary from the twenties to the fifties with the majority of them being married. Both mothers and grandmothers are represented. Many of the girls are married to

husbands who are sportsmen and who are active in their own clubs.

According to their by-laws their objectives are: "To encourage and stimulate interest in the sports of fishing and hunting, and other sports; to actively engage in the conservation of fish and game and other natural resources. To sponsor, promote and participate in the proposing, passage and enactment of proper legislation for the attainment and protection of these objectives; to assist in bringing about a more friendly relationship between land owners, tenants and sportsmen, and to assist the district Fish Warden and the area Game Protector when and wherever possible."

Their meetings are run on the same order as the other clubs of the Federation and are only noticeable or different in one respect—the absence of any men except the custodian who stays out of the way. The club has had its charter approved by the State Department of Revenue and it will now come before the Northampton County Courts for final approval in the immediate future.

Sportsmen's clubs always have projects and the Femme Rod & Gun Club is no exception. For an infant organization they have a very ambitious program. Even before they become affiliated with the Federation they assisted their brother sportsmen in stocking 4,400 trout this past spring. A second stocking of the same number of fish was made at a later date by the members themselves.

Most of the women seem to prefer fishing although a number of them also hunt. Incidently Mrs. Kunkel has three deer to her credit which is more than a lot of men can lay claim to. However to show that their interests are not one-sided they raised and stocked approximately 150 pheasants last year.

Another project that is unusual and might well serve as a model for other clubs is the preparation of an educational film on pheasants. A motion picture story of their pheasant project from the time the birds were received from the Game Commission until they were released in the field is being made. Mr. Walter DeHart, a local sportsman and wildlife photographer, is assisting with the technical details of the film. The picture will portray housing, feeding, as well as their development and habits. The finale will come when one of the members bags a bird. When completed, edited and the sound track added the film will be available to sportsmen's clubs, schools and other interested groups.

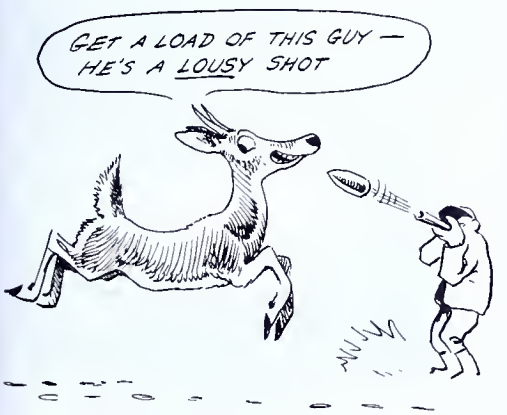
It appears, after some research, that the Femme Rod & Gun Club is the first organized all women's "sportsmen's" club in the country. Pennsylvania is proud to have this "first" and the Northampton County Federation is to be congratulated for their assistance and acceptance of this sister club. As the members of the Femme Club say: "Anyone may join our club by fulfilling our only two requirements, interested in sports and—be a woman."





Sprained Ankle Sure Asset

BERKS COUNTY—One of our local hunters, crippled by a sprained ankle, hunted deer in Centre County. He was not able to drive with his group and decided to pot-hunt the first day. After standing for sometime, he decided to return to camp and left a note for his buddy. Returning to the cabin, he observed a spike buck pass him but was unable to shoot. Another hunter turned the deer and he had one shot as the deer repassed him. It continued in flight, but after another flurry of shots, was seen retracing its path again. As the deer came into view the hunter was ready and taking a good aim, squeezed off a second shot. As he fired, he missed the target in the scope. As he checked the spot where he had last seen the deer, he found it lying dead less than ten feet from where he had fired his first shot. Only one shot was in the deer—it had returned to die at his feet.—District Game Protector Joseph A. Leinendecker, Reading.

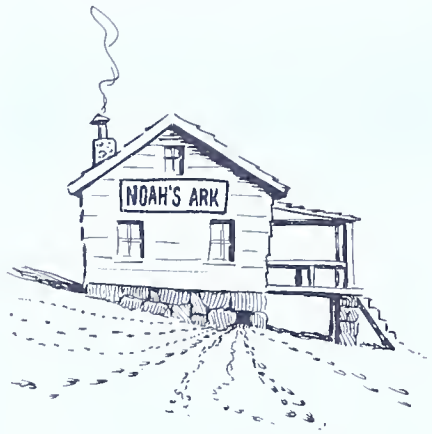


Crow Calling Cat Causes Decease

LUZERNE COUNTY—On December 2, 1954, I received a call from one of my deputies at White Haven. He informed me that a Mr. Best of 410 Berwick Street, White Haven, had killed an exceptionally large wildcat. This I had to see because since being stationed here, that is the first cat reported killed in my district. Upon contacting Mr. Best he related the following story to me. He was hunting deer when he heard what sounded like a baby crow calling from a big tree that had blown down. He strained his eyes to see this black fellow when all of a sudden this big cat bounced out of the tree. A well placed shot took care of Mr. Cat. It measured 59 inches from head to tail. Now the question is, was this cat trying to imitate a crow or was it really a crow that Mr. Best heard.—District Game Protector Norman J. Forche, Conyngham.

Where The Coyotes Howl

MONROE COUNTY—Three coyotes were killed on State Game Lands No. 127, according to reports during the deer season. Mr. Lloyd Schweitzer, Box 22, Ackermanville, Penna., killed a male coyote weighing about 45 pounds on November 29, 1954. The taxidermist of that area, according to Schweitzer, called it a brush wolf or a large coyote. The second one was killed by Lewis Matchko of Plains, Penna., on December 4, 1954. This was a female. The third coyote was killed by some unknown hunter. I understand he was from the Philadelphia area.—District Game Protector John Spencer, Mt. Pocono.



Mixed Roommates

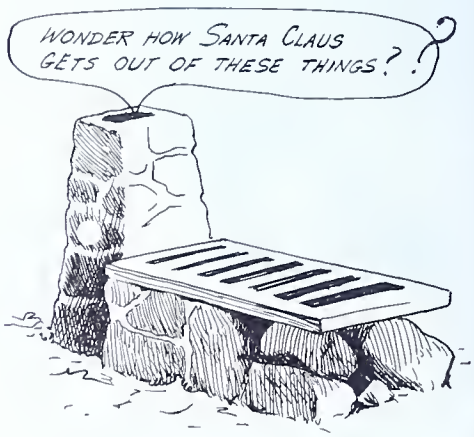
CENTRE COUNTY—I learned from a permanent resident of a hunting camp, Gib Watson, in Union Township, shortly after deer season that he had some strange companions living together under his camp using the same entrance. During a single evening he saw a cottontail, a skunk, and a stray house cat use the same hole to go under the camp, the three being under the camp at one time. This incident has occurred several times; thus it appears as though the three have their residence there.—District Game Protector Charles M. Laird, Milesburg.

Know The Law—It Pays

PIKE COUNTY—During the past deer season the following incident was reported to me regarding the killing of a spike buck. This happened near Panther Swamp in the Bruce Lake area of Pike County. About 8 a. m. on the first day, a hunter heard a shot just a short way from him and, being curious as to whether the other fellow was sucessful, started out in the direction of the shot. He soon saw a hunter bending over a deer and when the hunter saw him he took out on the run, leaving the deer behind. So this hunter walked up to the abandoned deer and it turned out to be a legal deer with spikes at least six inches long. He called to the hunter but no answer came. After waiting about an hour, the hunter dressed out the deer, attached his tag to it and took it out. Maybe if the unknown hunter who killed the deer reads this, he will find out that it pays to read your license and should you make a mistake to be sport enough to declare it.—District Game Protector Albert J. Kriefski, Blooming Grove.

Outdoor Fireplace Fools Fox

LANCASTER COUNTY—A gray fox was found starved to death this month in a natural box trap in an outside fireplace. It appears this fox entered the fireplace while hunting or else in thinking it would make an ideal den. After it had entered this fireplace some rocks became dislodged thus preventing the fox from leaving. There were no marks of any kind on the animal which indicates that it had not been previously wounded and just crawled in for temporary safety reasons. The man who discovered the dead fox was informed, of course, that he could not collect bounty legally on this animal because he was not directly responsible for its death and that he would be swearing falsely if he attempted to collect the $4.00 bounty.—District Game Protector J. M. Haverstick, Lancaster.



One Tag Game

COLUMBIA COUNTY — Among the odd requests submitted to a Game Protector during the year is the one of a young hunter accompanied by an older spokesman who came to my office one evening during the deer season. The spokesman requested that I furnish the boy with a big game tag. On questioning him as to why, he stated that the boy had killed a deer somewhere in the Poconos and had hung it in the garage where he was staying. Sometime during the night, it disappeared, tag and all, and he thought he was surely entitled to another tag so that he could kill another deer. He was reluctant in accepting the fact that but one deer could be killed in a season and that it was his own responsibility in retaining it. He finally left, talking to himself. — District Game Protector Mark L. Hagenbuch, Bloomsburg.

Crow Shooting Pays Off

CENTRE COUNTY — Wayne Harpster of Philipsburg, Penna., a hunter with about 35 years hunting experience behind him, reports this past season to be one of the best, if not the best, he has ever had. Mr. Harpster reports filling more season bag limits this past seaon than any other season. Mr. Harpster reports the following bag limits filled. Eight grouse, twenty rabbits, one turkey, and one deer. He and his young son Neil, keep their shooting eyes sharp by shooting crows the year around. The two of them kill a good many crows in the off season. Not only is this good training for young Neil in the ways of firearms. but it pays off. Neil, 13, has two seasons behind him that would make many an older hunter envious, Neil bagged a turkey this year along with other small game and killed a deer last year, his first year to hunt.—District Game Protector Robert H. Sphar, Philipsburg.



Just Practicing For Groundhog Day

WAYNE COUNTY—On December 11, 1954, the last day of the deer season, Deputy Ohlsen and I were on patrol in Canaan Township. The ground was white with snow and it was a cold blustery day. As we drove along Route No. 6, we spotted a motion in the brush at the side of the road and to our surprise saw a large woodchuck moving across the snow. It went a short distance and stood up to survey the surroundings. Just what caused this animal to be out of its den at this time of the year is more than I can say.—District Game Protector Robert H. Myers, Honesdale.

Reynard Rules The Roost

McKEAN COUNTY—On the first morning of deer season Deputy Martin of Lewis Run went out to his favorite spot. He stood there for a while, finally discovering a flock of turkeys roosting in some trees nearby. One of them flew down to the ground. It made a funny noise and flew back up. Several of them did the same thing. By that time Mr. Martin knew there was something wrong and decided to investigate. He discovered that every time a turkey would fly down a red fox would make a dive for it. About that time the fox discovered Mr. Martin and beat it before he got a shot at it.—District Game Protector William J. Carpenter, Mt. Jewett.



Feet, Feet, Feet, Foot

WESTMORELAND COUNTY—This past hunting season a three-legged ringneck was killed by R. V. Myers near his home in Yukon, Penna. The third leg grew from the pelvis, straight back under the tail, and had six toes on it. A few days later Mr. Myers killed another ringneck with only one leg.—District Game Protector J. M. Maholtz, Mt. Pleasant.

Bruin Duo Tries Venison

BRADFORD COUNTY—The day after deer season ended, I noticed where something had been dragged across the railroad grade on State Game Lands No. 12. I stopped the jeep and found that a bear had located a dead deer along Schrader Creek and ate part of it, dragging the rest across the grade and up the hill where the eating was resumed. This bear was accompanied by a cub, and between the two, they ate all of the deer except a shoulder blade with about two pounds of meat which was dropped by the cub when he made a hasty retreat. There was a good tracking snow and the sign was very fresh when I found it. The hide was turned inside out rather neatly.—District Game Protector George E. Sprankle, Canton.

Sound Shots

SCHUYLKILL COUNTY—When approached by a Deputy Game Protector and by the way of greeting the hunter was asked, "Have you seen anything today?" The reply from the hunter was, "All I've had was a couple of sound shots." When the puzzled Deputy asked for an explanation of the term he found that the hunter had only heard a noise in the brush and fired thinking it might be a deer. Just such a case as this occurred when Mr. Charles Walker of Schuylkill Haven was fired upon by an unknown hunter at a distance of less than a hundred yards, during this past deer season. This is one of the many reasons for some of the accidents which occur during our hunting seasons.—District Game Protector Ralph L. Shank, Pine Grove.

Starting Them Young

BUCKS COUNTY—We have reports of rather elderly people hunting each year; however, on the first day of deer season I saw a five month old infant lying in a basket in the car that the mother was using for transportation to and from the hunting area. Of course, another lady was caring for the baby while the mother hunted. The mother had seen five does in the forenoon, and impressed me as originally having something to do with the phrase "Where there's a will there's a way."—District Game Protector S. Earl Carpenter, Doylestown.

Color Camouflage Almost Succeeds

POTTER COUNTY—I had a nearly albino buck killed in my district on the last day of the 1954 season. No doubt he would have been bagged earlier in the season if he hadn't had a good background of snow to blend in with all through the season. He was a five point and was all white except for his ears and a couple dozen brown spots about the size of quarters along his back and

one front shoulder. If the season had closed two and a half hours earlier, he would have made it through.—District Game Protector Rozell A. Stidd, Coudersport.

This Changing World

FAYETTE COUNTY—It is quite hard to realize the change that can come over a particular district in a few years. I am back in my home district again after an absence of fourteen years and the change amazes me. When I left this district fourteen years ago there were very few ringneck pheasants to be found in the county of Fayette. Now we have just completed a very successful ringneck season and have a fine carry-over. Also when I left here for the Commission's training school, there wasn't a deer to be found in any part of the county except in the mountain district. Now we have deer scattered over the entire county and this past season showed that there was one eighteen point buck killed, another with fourteen points, and numerous ones with ten and twelve points.—District Game Protector Clifford L. Ruth, Hibbs.

It's The Final Product That Counts

FAYETTE COUNTY—The average sportsman doesn't understand the deer situation. When put in print for them they usually don't read it, as it is long and hard for some to understand how to best control and get the most out of the deer. I believe it should be put to them in this way: If we go to a shoemaker, we don't ask what kind of leather he uses, or what kind of thread is used, or what kind of machines they use. The customer looks at the finished product—no matter what the business is. If the product is good, the customer is satisfied. Likewise, the sportsman should look at the "proof of the pudding"—the increased buck kill, and let the Game Commission handle their business.—District Game Protector J. R. Hiller, Uniontown.

All That Glitters Is Not Gold

VENANGO COUNTY—A sportsman from the town of Venus was cleaning a wild turkey bagged in the past hunting season when he noticed particles of metal shining among other material taken from the gizzard. For a moment he thought the turkey had been eating gold nuggets. But on closer examination, he found many fragments of .22 caliber cartridges and four whole, but flattened, empty shell cases along with a portion of an insulator from an electric fence.—Land Utilization Assistant Earl E. Smith, Franklin.

On The Wrong Trail

GREENE COUNTY—Not only do deer in Greene County have protection through the Game Law, but also from the hunters themselves. These stories were related to me in all sincerity: One hunter followed a track for a mile, only to find it was a goat. Another party of three followed a track through a creek, forest and field, only finding it was made by a large black dog. Another party of three followed a track for a great distance, only to be lead to their own hog pen. —District Game Protector A. J. Ziros, Carmichaels.



The 1954 Special Archery Season





By Roger M. Latham

Chief, Wildlife Research Division

ANOTHER special archery season has passed, and as usual questionnaires were mailed to the successful bowmen. This year 55 bucks were killed as compared to 33 in 1951, 24 in 1952, and 84 in 1953. The kill was unexpectedly low because 14,775 archers bought a license to hunt with the bow this year which is a higher figure than any of the preceding three years (5,542 in 1951; 8,446 in 1952; and 10,600 in 1953). The reason for the low kill is unexplained, except that perhaps the rutting season was delayed somewhat, and the bucks were not as bold and active as they would be a couple of weeks later.

Fifty of the fifty-five questionnaires were returned, and the information given showed that these 50 men had killed 16 spike-bucks, 21 bucks with three to five points, and 13 bucks with six or more points. A nine-pointer was the best buck bagged this year.

These 50 deer were killed in 21 counties, and Potter led the list with 8. Forest was next with 6, and Warren, Carbon, and McKean each had 4. Lycoming and Elk were next with 3 each. The personal data indicated that deer hunting with a bow is a young man's sport, because the average age of all hunters was 30. The youngest was 16 and the oldest was 49. Eleven of the men were hunting with the bow for the first time, which should encourage other tyros to try the sport next year. The average bow hunting experience for the entire group was slightly over three years.

Forty-three of the fifty deer were killed with a single arrow, but one

man had five arrows in his trophy before he finished shooting. The deer were shot from an average distance of 36 yards, but the longest shot was 105 yards. One lucky nimrod had a buck approach within 6 yards. Thirty were shot while standing, 14 while walking, and 3 while running. The effectiveness of the bow as a hunting weapon was demonstrated by the fact that ten of the deer literally died in their tracks. Twenty-four others travelled less than 100 yards. Only 5 had to be followed more than a quarter of a mile.

The 50 hunters averaged three and one-half days' (19 hours) in pursuit of deer, and altogether they saw 142 legal bucks. The champion stalker saw 17 during his time in the mountains. These men shot at 66, killed 50, and crippled none. Congratulations on good shooting!

The equipment was quite variable, but most of the men used recurved bows and the majority were constructed of laminated glass and wood. The average pull for all bows was 55 pounds. About half of the group used a three-blade head and the other half used a broadhead point.

Under "remarks" the bowmen had a number of recommendations to make for future seasons. By far the most popular was for a "hunter's choice" season for the archers. They reasoned that even with the additional number of men and women who would take up the sport, the total kill would still be no more than a few hundred deer based upon figures from other states where both sexes are legal. They pointed out that many times more than this number are killed annually by automobiles on the highways, for crop damage, from winter starvation, and other miscellaneous causes. They believe that these few deer would provide a tremendous amount of recreation for the thousands of bow hunters who would be in the mountains at this most glorious season of the year.







They pointed out, too, that this would mean several hundred less deer hunters in the forests during the regular rifle season, which should have some significance as a safety measure.

Almost all agreed that the shooting hours for early October should be lengthened. The deer have already left their feeding grounds and have bedded down by seven in the morning, and they have not started to move back to feed as early as five in the afternoon. Some suggest six to six, or better yet, sunrise to sunset.

Others would like to have the season moved forward or extended so that it would encompass at least part of the breeding season which begins normally in late October and extends into late November. At this time, the bucks are active nearly all day, and are inclined to be less shy, so that an archer would have a much better chance for a shot.



Deer Then and Now

Deer were brought back to abundance in Pennsylvania through stocking and protection begining in 1915. The lumberman's axe and saw, just prior to that time, contributed greatly to the come-back. When the large timber was removed, the brush that followed provided a wealth of succulent, low vegetation on which these big game animals thrived.

But despite widespread timber cutting in the late 1800's the deer population in this State was at low ebb. The following article taken from the Harrisburg Star Independent dated August 17, 1891, tells how a writer viewed the situation at that time.

"Pennsylvania deer are become almost extinct in their old haunts, and hunters report that in a very few years the animal will not be seen in any part of the state. There is nothing surprising in this when it is remembered how close has been the pursuit of deer by hunters and how great has been the panicizing effect on this game by the roar of locomotives in all parts of the state. There is really no longer a quiet feeding or breeding place for deer out of reach of the hunters and the puffs of locomotives in Pennsylvania, and therefore the few deer left are seeking retreats elsewhere, if they are able to escape the bullets of their hunters. Like the shad in our rivers, the progress and need of means of transportation are driving the deer from our forests where they were once so numerous."

A Sportsman's Guide to . . .

Greene County

Forty-Eighth In A Series

Note: This center sheet can be removed, if desired, without damaging the magazine by loosening the two center staples.

Land Area

Greene County covers 370,688 acres of which 90,740 acres are forested. The only publicly-owned land in the county is in one tract of State Game Lands totalling 1,068 acres.

Topography

The land is broken, but not mountainous, and is well watered by the Monongahela River and its tributaries, in the valleys of which are many fine farms.

Transportation

Railroad transportation is furnished by the Pennsylvania system. The William Flinn Highway (U. S. 19) and other important routes traverse the county, which has 532 miles of improved State highways.

District Game Protectors

District Game Protector W. E. Cowden, Box 428 (1050½ E. High St.), Waynesburg (Phone 1438) has jurisdiction over the following townships: Aleppo, Centre, Gilmore, Jackson, Morris, Richhill, Springfield, and Wayne.

District Game Protector A. J. Ziros, Box 304 (304 Baily Ave.), Carmichaels (Phone 2120) has jurisdiction over the following townships: Cumberland, Dunkard, Franklin, Greene, Jefferson, Monongahela, Morgan, Perry, Washington and Whiteley.

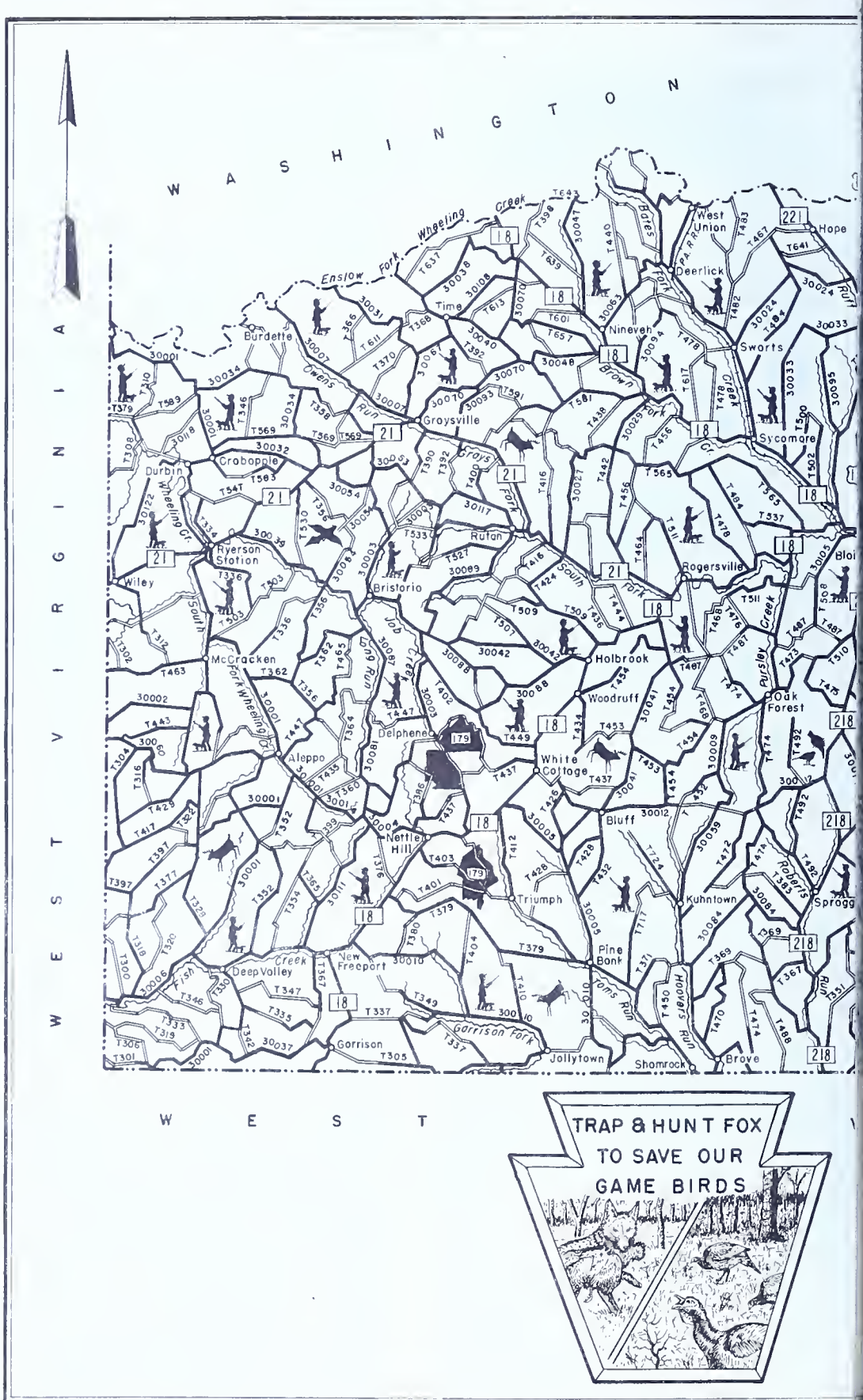
Fish Warden

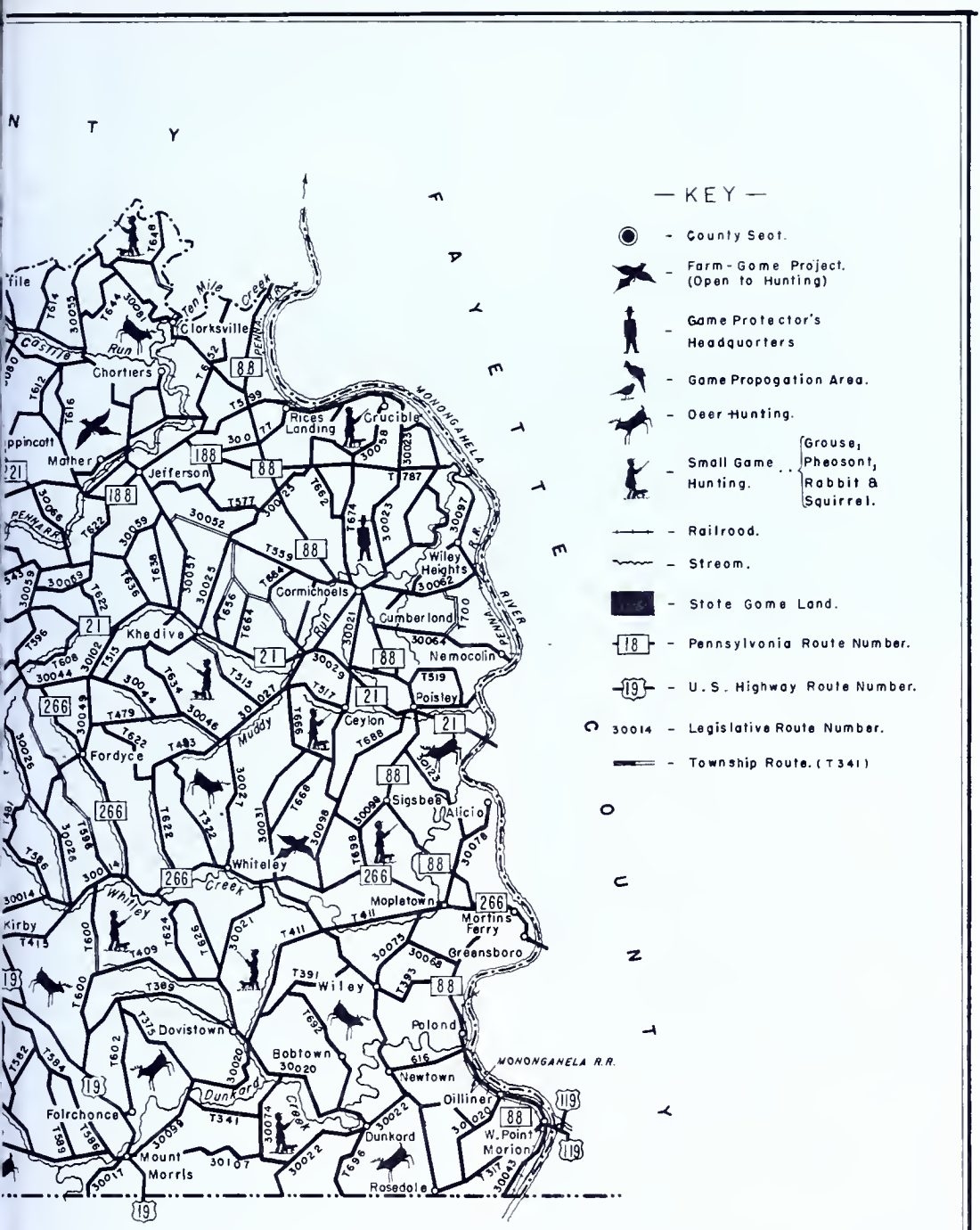
Fish Warden Budd R. Brooks, Box 389, Washington (Phone 2071J) is assigned to Greene County by the Pennsylvania Fish Commission.

History

Greene County, named for Nathaniel Greene, the Revolutionary War general, lies in the southwestern corner of Pennsylvania next to West Virginia. Before the Revolution it was considered a part of Virginia and was settled about the time of the outbreak of the French and Indian War by settlers from the South. The unprotected outpost nature of this section prevented any considerable development before the Revolution and it was not until after 1790 that villages and towns began to be organized. Greensboro was laid out in 1791 by Elias Stone, and Waynesburg, the county seat named after General Anthony Wayne, was laid out in 1796, the same year in which Greene County was formed from Washington County. George Washington may have owned some land in the county and approximately one thousand Virginia claims are on record.

The early growth of the county was somewhat slow due to the fact that it was slightly off the principal routes of settlers migrating westward. In 1836 the Monongahela Navigation Company was chartered to begin the work of improving the river for navigation. The first railroad in the county was not built until 1877. Greene Academy was established at Carmichaels in 1810 and became a well-known institution of learning in


W A S H I N G T O N
W E S T V I R G I N I A
W E S T
Enslow Fork
Wheeling Creek
Burdette
Time
Nineveh
West Union
Deerlick
Hope
Swarts
Sycamore
Groysville
Croboppie
Durbin
Ryerson Station
Wiley
Bristoria
Rufan
Rogersville
McCracken
Holbrook
Woodruff
Oak Forest
Delphene
Aleppo
White Cottage
Bluff
Nettlex Hill
Triumph
Kuhntown
Sprogg
Deep Valley
New Freeport
Pine Bank
Gorrison
Jollytown
Shomrock
Brove
TRAP & HUNT FOX
TO SAVE OUR
GAME BIRDS


— KEY —
- County Seat.
- Farm-Game Project. (Open to Hunting)
- Game Protector's Headquarters
- Game Propogation Area.
- Deer Hunting.
- Small Game Hunting. (Grouse; Pheosont, Rabbit & Squirrel.)
- Railroad.
- Stream.
- State Game Land.
- Pennsylvonia Route Number.
- U.S. Highway Route Number.
30014 - Legislative Route Number.
- Township Route. (T341)
FAYETTE COUNTY
Clorksville
Chortiers
Rices Landing
Crucible
Jefferson
Mather
Cormichoels
Wiley Heights
Cumberland
Nemacolin
Poisley
Ceylon
Khedive
Fordyce
Sigsbee
Alicio
Whiteley
Mopletown
Mortins Ferry
Greensboro
Wiley
Polond
Dovistown
Bobtown
Newtown
Oilliner
W. Point
Morion
Dunkard
Folrchonce
Mount Morris
Rosedale
MONONGAHELA R.R.
MONONGAHELA RIVER
Muddy Run
Dunkard Creek
Ten Mile Creek
PENNSYLVANIA
GAME COMMISSION
GREENE COUNTY
PENNSYLVANIA
Scale to miles
L.A.M.

the region. In 1849 a school at Waynesburg was opened under the auspices of the Cumberland Presbyterian Church, two years later becoming Waynesburg College. A class of girls was graduated in 1852 establishing Waynesburg as one of the pioneer colleges in the United States in providing higher education for women.

Agriculture

Agriculture has centered upon sheep and cattle raising and Greene is by far the largest sheep raising county in the State. There number of farms totals 2,860 with 68,019 acres under cultivation.

Industry

The principal industry is bituminous coal but other mineral wealth abounds, including natural gas, petroleum, sandstone for building purposes, shale for the making of bricks, and limestone utilized as crushed stone. Important discoveries of natural gas have been made within the past two decades and the county has been described as a great natural gas pool. Oil production is also another important industry, still averaging nearly 300,000 barrels a year.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked, location and length or area of waters stocked by the Pennsylvania Fish Commission) include:

BLACK BASS: Brown Fork Creek, Waynesburg, Rt. 18, 7 mi.; Dunkard Creek, Mt. Morris, Rt. 19. 6 mi.; Dunkard Creek. Penn Fork. Brave, Rt. 218, 6 mi.; Ruff Creek, Waynesburg, 7 mi.; Ten Mile Creek, Waynesburg, 12 mi.; Wheeling Creek, North and South Forks, Graysville, Rt. 21, 9 mi.; Wheeling Creek, Dunkard Fork, Wind Ridge, Rt. 21, 5 mi.; Whiteley Creek. (Greensboro, Rt. 88. 2 miles.

Recreation—Hunting

Greene County is mostly noted for its fox hunting but also provides some small game hunting of squirrels, rabbits, bobwhite quail and other species. State Game Lands Number 179, in two tracts totalling 1,068 acres, is located in the southwest corner of the County. There are also three Cooperative Farm-Game Projects, open to public hunting, located as follows: Number 13, near Waynesburg and Jefferson totalling 2,686 acres; Number 135, near Carmichaels and Greensboro. totalling 4,510 acres; and Number 199, near West Finley and Wind Ridge, totalling 2,204 acres.



Field Trial Fun

By Horace Lytle



IN OUR two past installments we tried to give some idea of the scope of competitions for canines that serve hunters. We hope we showed somewhat conclusively that there is a trial to fit the needs and/or the interest of any hunter, no matter what his special leanings as to either dog or game may be. With but one exception! There is no trial functioning exclusively on woodcock—as in the case of grouse. Nor can there be. Woodcock are here today and gone tomorrow. Trial plans must be made well in advance. Woodcock are too unpredictable. A woodcock trial would be fine, IF ———. But to have a stage all set, and no birds, could send the whole thing up in smoke—and would, too often. Even so, the timberdoodle is a game bird—and, as such, we have seen more than one chance find and work on woodcock prove a determining factor in naming the winner of a quail trial!

Or in the *losing* of one! The judges once told the writer that they would have placed his Setter bitch *first* in a very important trial had she not failed to handle a woodcock—her only chance on game that came under judgement. It was *not* her "only chance," though. Earlier, she had missed an opportunity on another woodcock, that only I saw her muff. So it goes. That woodcock were a new bird for her was no excuse for not recognizing a great game bird for what he is.

Today, however, we are thinking of dwelling on the lighter side of field trials. Whether it be hounds, spaniels, retrievers, pointers or setters this lighter side may give you the memories that live longer than any others. With this exception: Nothing can live longer than the memory of an outstanding win—especially if it be a well-won Championship. But something like that, we think, might be about the only such exception.

There has never been quite so much merriment, at any trials anywhere, as we have known in Pennsylvania. And the bubbling fountain of the fun was always Judge Harry R. Hyde of Ridgeway. Many participated—but Judge Hyde sparked most of it. One morning at DuBois, just before the start of the first brace, Judge Hyde came up to W. E. Hughes and myself, who were judging, and invited us to have dinner at his home that evening. Both of us accepted—who wouldn't! The real guest of honor, however, was the late A. F.

Hochwalt, most famous of all field trial reporters, who was there to cover this event for The American Field.

It was a gay party that evening. The cozy, isolated setting hidden away in the midst of 20,000 acres of great grouse cover was simply "out of this world." We saw pictures of Champion grouse dogs, and visited over their exploits. And, at long last, came dinner—with champagne! Then it was that our host arose and dellivered himself thus:

"A toast to our judges," he said, "who are with us tonight due but to the fact that my idea back-fired. It'll never happen this way again. I've learned my lesson."

"What lesson?" It was Hochwalt who asked it, chuckling—sure there was more to come.

"Well, it was this way," Judge Hyde continued. "I schemed up how I might add to the chances of winning that All-Age today. So I invited these judges to dinner this morning before even the first brace had been run. And what did it get me? Nothing at all! The next time it'll be different. No judge ever again will get an invitation from me until after a stake is over. Then if I've landed a winner—and the judges have thus *earned* it—I'll invite them. But if they haven't I'll not."

We all laughed until our sides ached. The very way our host had staged it was in a manner no man could match. Judge Hyde was an artist.

It wasn't often, however, that Glendale (Hyde's kennel name) dogs ran unplaced. One time at Conneaut Lake the three winners in a very good Subscription Stake were Village Boy, Wanabrook Babe and Glendale Cal, placed in that order. Village Boy was the spectacular two-time winner of the National Pheasant Championship. His owner was Harry Crandall, who also owned Wanabrook Babe; and Cal, of course, was Judge Hyde's dog. Crandall had started two—and won with both. While Glendale Cal had been his owner's only starter. Every other entry in the stake, except one, had been owned by the late Fred Miller of Bradford, known to all in the fancy as the "genial General." After it was over, these three drove me to Meadville to catch a train, and Judge Hyde was in rare form.

"How many d'you start, Harry?" he asked Crandall. A minute later he said: "Well, I just started one—but they placed him." Then—

"General, how many did *you* start?" When Miller but smiled in that quiet way of his, Hyde said:

"Well, anyhow, looks like it might 'ave paid you to start eight or ten more!"

Speaking of Subscription Stakes at Conneaut, I think of another. This one may scarcely rate under the "fun" heading of this article. Cruel might be more appropriate. Yet it seems to have a place—with no mention of names. And, if not exactly fun for the writer, it was at least satisfying. The Conneaut course was short, even for 30 minutes, for a big-going dog. I once saw Village Boy cover it superbly, with two beautifully handled finds included, in but 19 minutes! Yet the year-in-question the Subscription Stake had been advertised for 45 minutes over that very course!

What's more, that particular Labor Day was hotter than the hinges of hades. We judges insisted that large tubs of water be placed at two different locations to offer the dogs some relief. And the water was freshened every so often. By this means we got by fairly well—until the Subscription Stake. My associate, O. S. ("Red") Redman, and I talked it over what to do about that. I told him I would refuse to judge it.

"Well, I feel much as you do," Red said, "but they don't have the territory for 45 minutes, so let's ask



FIELD TRIAL GALLERY is usually a scene of much discussion and "expert" opinion about hunting dogs. These "roadside judges" were photographed at Greater Pittsburgh Field Trail in Crawford County in 1948.

them *where* we're to run it. Maybe that'll give us an 'out.'"

So we asked—and were told! There was no additional terrain. We would have to run it over the same course—yet use up half-again as much time! They thought maybe we could manage by keeping to the outer edges. As it was I who felt the more keenly, I did the talking—and I blew-up. I said that wouldn't do at all—would make but a farce of the thing—that the heat would punish the dogs too severely—and I'd have no part of any of it. They could get some one else to take my place as a judge.

The Secretary raised a very sound point. The Stake, having been advertised for 45 minutes, couldn't properly now be changed with the correctness of that no man could find fault. But I took the stand that circumstances can alter cases—that this was in the nature of an *emergency* and I stood pat. The upshot was that we judges won our point and the additional 15 minutes of running was waved.

But there was one man whose statements I had not liked. His direct insinuation was that we were merely trying to favor certain dogs that we knew could not run that long. He had worked his dogs hard just for this event—and they were ready. He resented being deprived of his "rights."

Well, we went ahead with the stake. Finally this man and his dog came before us. He was under judgement now, and politeness personified. The bird-field was an acre or so of too-heavy cover lying at the bottom of the hill where the gallery stood or sat. For some strange reason, most of the handlers dismounted when they came to this field. They could have seen their dogs better if they had stayed up higher on their horses. Soon the gentleman with the "tough" dog couldn't see him, and he turned to me.

"Judge, can you see him?" he asked.

"Yes, I do," I told him.

"Where is he, sir?" he inquired.

"Over by that big tree at the fence,"



FUN FOR ALL is found where good dogs meet. These young field trial followers warm-up their favorites at the Grand National Grouse Dog Trials of 1946.

I told him. Told him that but no more.

"What's he doing?" his handler next wanted to know.

"Lying down in the shade," I told him truly—in response to his one-question-too-many. I was a little sorry he'd asked me that last question. I'd never have said a word if he hadn't. After all, though, maybe he had it coming to him. Anyhow, we never heard any more of our cutting of the time.

I judged at Conneaut twice with the same O. S. Redman. The memory of the first time takes us back again to Judge Hyde, the year before we placed Glendale Cal third in the All-Age. The Derby was an especially "hot" one that year with 25 entries. And among those starters were two young Setters that stood out as bright stars. One of these was named Hallock, handled by his owner, the late Harry Wilson of Nugym fame. The other was Judge Hyde's Glendale Cal, handled by Jake Steis. They were both so splendid that placing one over the other was as tough a job as a judge could tackle. I vividly remember leaning by just a wee margin toward Hallock—just a little but not much. Redman was in the same boat, though his very slight preference was for Cal. And I recall that he backed his leaning by some reason—a reason I have since forgotten. But whatever the thought was that Red gave me, it was enough to tip the balance to Glendale Cal. So we finally placed him first and Hallock second. Nowhere have I ever heard such hurrahing as burst from the gallery hill when that decision was announced. But it was a full year later before I was to learn what it all meant.

Judge Hyde, with Jake Steis, had gone to that trial with but the one entry for one stake. When this fact was learned, everyone wanted to know why they hadn't brought more dogs.

"With one dog like Cal, one's all you need," Judge Hyde retorted. Shortly, after they'd all given him a pretty good ribbing, the outcome was a wager of $100 that Cal would win the Derby—quickly accepted by General Miller.

"Even money against the field!" Harry Crandall inquired.

"Sure," Judge Hyde let it be known.

"Any more available on that basis?" several wanted to know.

There was indeed—and it eventuated that Judge Hyde had $800 riding on Cal; $100 each with 8 different cronies.

No wonder there had been so much back-slapping when Redman and I had turned in our decision. But it had been the closest kind of a call. There would have been a different story to tell had I chanced to sway "Red" to my first slight leaning for Hallock, instead of him swaying me to Glendale Cal. Any difference between them was mighty-near-too-tiny-to-touch.

Yes, there is much fun—and in many ways—at almost any field trial. For instance, there was the justifiably excited amateur handler who, after flushing game for the third time over his splendid Setter bitch, tried to mount a horse that two other fellows

were already riding!

Or the similarly up-in-the-clouds amateur who, after more effort than it should have taken, finally flushed to the point of his stylish dog one of the largest covies of quail this writer has ever seen. The birds simply boiled out—yet the handler in question confessed to having seen but *one bird!*

We have judged many trials throughout Pennsylvania—and have always found fun—at Erie, Sewickley, Rolling Rock Country Club. It was at the last named that we met Harry Curry, who at that time was President of the Georgia Field Trial Club with headquarters at Waynesboro, near where Curry then had a shooting lodge and preserve. It was at Rolling Rock that Harry invited me to judge the Georgia trials, which I did—and we had a world of fun there, too. Also we saw there (though she was retired) Curry's National Champion, Homewood Flirtatious.

Judging with me at Rolling Rock was Al Fullick of Washington, Pa. We became fast friends and served together twice afterward. Our second meeting was at Warren, Ohio and Mrs. Fullick was with him. Right after the All-Age we got into his car to make up our decision. Some inner prompting urged me to try something. Al and I had not exchanged a single word about any dog in the stake.

"Al, you write down your three winners," I said, "and hand them to Mrs. Fullick." He did—and she took the little slip of paper. Then I wrote down the three top dogs as I saw them, and gave her my paper. She studied our two separate verdicts closely, then said:

"Why you both have them exactly the same!"

"Sure," I laughed—"I thought we would." Al Fullick and I always saw 'em pretty much alike. That's why I so loved judging with him. And why it was fun.

Thus when I was invited to judge the Empire State Trials in 1948, and they asked me if I had any preference as to whom they might get to serve with me, I urged them to get Al Fullick—if they could. They did—much to my great satisfaction. It is still my keen regret that we've not been together since. If there's ever a rating of Pennsylvania's top judges, write down the name of Al Fullick for me at the head of the list.

Yes, there is much fun at field trials—of any kind, anywhere, any time. May any and all of you who chance to read this find it the same. You should—it's always *there to find*. Yes, you will find at field trials, the finest kind of fun—but nowhere finer than in Pennsylvania.

THE BREAK-A-WAY is always a thrilling moment at any field trial. Both dogs and handlers seem to know a fast start may mean a strong finish.





Commission Announces Plans for 1955 Pheasant Chick Program

In 1945, the first year of the Pennsylvania Game Commission's day-old pheasant chick program, 52% of the young ringnecks turned over to interested individuals and organizations for rearing reached maturity. The success ratio since has improved to the point of about 80% in recent years. With the increase in skill of the amateur propagators, the quality of the birds has improved as well.

Last year the Game Commission supplied 218,625 pheasant chicks to cooperating farmers and sportsmen. Approximately 83% of them, the best record so far, were reared to 12 weeks of age or older. This year the Commission will again have day-old pheasant chicks for distribution to sportsmen's organizations, farm-game cooperators, rabbit farm cooperators and farmers with a minimum of 50 acres of land open to public hunting. Five pounds of starting feed will be supplied for each chick furnished clubs or individuals.

All applications must be made through District Game Protectors who will inspect the equipment and pens to be used before approval is given. Applications must reach the Harrisburg office of the Game Commission prior to April 1 to insure feed delivery in time. Chicks will be available between May 15 and July 15 with the majority of shipments made in June. Better results are possible if cooperators pick up their chicks at the Game Farms, thus avoiding possible delay and loss in transit. All approved applications are serviced on a first come, first served basis.

State Game Lands Increased by Deed From U. S.

By deed dated November 10, 1954, the United States Government turned over 5,194.24 acres of land, more or less, to the Commonwealth of Pennsylvania, for the use of the Game Commission. This holding is located in Warren Township, Bradford County. The Federal Government bought this submarginal land about 20 years earlier for reforestation and park purposes.

On May 7, 1951, this property was leased to the Commonwealth and the Commission. This lease was terminated with the execution of the deed last November. The wildlife authorities managed the area for wildlife since 1951, designating it State Game Lands No. 219.

In the transfer to the Commonwealth from the United States the customary reservations of oil, gas, coal, uranium and other minerals were made. If at any time the land ceases to be used for public purposes it shall revert to the United States of America.

The Game Commission plans to manage this holding as follows: about 350 acres will be planted much like other agricultural land in the vicinity; about 2400 acres will be treated as wildlife areas of various descriptions—open, shrubby and forested; some 230 acres of wetlands will be managed for wild waterfowl and other creatures requiring water areas; and the remaining land, about 2200 acres, will be in forest land.

With the acquisition of the Bradford County tract the total of State Game Lands reached 905.785 acres.

Hunters Have Only Fair Shooting During 1955 Varying Hare Season

Reports from Pennsylvania game protectors in the northern counties, home area of nearly all the varying hares (snowshoe rabbits) in Pennsylvania, indicate the 1955 open season held during the first week of January was not the most successful or pleasant in recent years.

During much of the season conditions were not conducive to good hunting. In the northwest and northcentral areas the snowshoe rabbit population was described as lower than last year and there was less hunting than in the 1954 season. In the northwest the weather was also reported as "bad," a heavily crusted snow contributing to poor hunting conditions. In the northcentral area the weather was described as "variable, with light snowfalls, some rain and in high altitudes, some deep crusted snow."

In northeastern Pennsylvania the number of snowshoe rabbit hunters increased in the '55 season with the big days afield being the two Saturdays. Ice-covered vegetation resulting from storms made hunting miserable over much of the season in that section. Game protectors estimated about 2700 varying hares were bagged by hunters in the week-long season. Only one hunter casualty attributable to gunfire was reported. It occurred in the northeast.



PGC Photo by Parlaman

SNOWSHOE HUNTERS found only fair shooting in Pennsylvania's 1954 season but this trio enjoyed a chase which lasted two and one-half hours. Some sportsmen claim snowshoe hunting with hounds is the maximum in sport.

Timber Felled by Storms Being Salvaged On Game Lands

Field officers of the Game Commission have been busy in recent months completing timber cruises in an effort to survey and salvage wherever possible trees felled by storms on State Game Lands. Considerable amounts of timber were downed by Hurricane Hazel last October in the northern half of the state. Other heavy storms last fall and this winter added to the windfall.

Since June 1, 1954 numerous contracts and special wood permits covering timber on approximately 1200 acres of these lands have been executed. In return, more than $56,500 has been received and deposited in the Game Fund. Though some contracts were for standing timber, the greatest acreage was sold to salvage valuable hardwoods damaged during the wind and ice storms.



PGC Photo by Parlaman

ONE REASON WHY SOME DEER NEVER WIND UP AS VENISON is clearly shown above. This deer was run down by stray dogs and literally pulled to pieces. Packs of wild dogs are all too common in Pennsylvania and often become a serious menace to deer.

Research Study Shows Deer Don't All Die In December

The history of Pennsylvania's deer has been of tremendous interest to the State's hunters, conservationists and tourists since the early days of this century. Other States have profited from the Commonwealth's pioneering and experiences in bringing back its once-depleted herd. The story has been: almost no deer in 1900, too many in the late 30's, a serious overbrowsing of the State's forests, and a decline in numbers because of this food shortage. Occasional deer studies had been made and considerable was known about the changes which brought about this reduction in the herd, but scientific management called for more facts.

Since 1947, Stanley E. Forbes, a graduate of Pennsylvania State University, with a Master's Degree in Wildlife Management, has been studying the State's deer and conditions affecting them. In collecting data and specimens valuable to the project he has received much cooperation from other research personnel, field officers of the Game Commission and sportsmen.

Forbes' annual report, dated July, 1954, contains information based almost wholly on records and evidence submitted. While most persons believe the hunting season kill represents the total mortality to deer in any year, the researcher found that in the 12 months ending June 30, 1954, over 6,000 deer were killed in other ways than by bullets or arrows. These met death on highways, were killed for crop damage, died as fawns under mowers, killed themselves by running into fences, or were destroyed by dogs. Though the winter of 1953-54 was a mild one, approximately 2500 additional deer were reported to have died from malnutrition. The total does not include the many additional deer not found or reported, nor those illegally killed in season and out. So it becomes apparent the deer kill report would have to be increased

considerably beyond the hunting season figure to show the total mortality in any year.

Here are Forbes' figures for the period covered by this report. Total legal deer kill (1953): legal antlered deer, 37,384; legal antlerless kill, 16,252. (Antlerless figure breaks down to 3202 males and 13,050 females). The number of deer reported killed out of season in that year was: 2214 males, 3794 females and 20 whose sex was unreported—a total of 6028. The number of deer estimated to have died of malnutrition in that time was 2500, of which approximately 625 were males, 1875 were females. So the total of all these causes of mortality during the 12-month period of this study was at least 62,164. Put in another way, 86.3% of this total made up the open season kill; 13.7% of deer deaths was attributed to miscellaneous causes.

From this total mortality for the year, Forbes is able to figure the annual rate of reduction for both antlered bucks and antlerless deer. And from this, he is able to compute the total number of deer still alive in the spring and predict the coming fawn crop. It is vitally necessary that this information be received so that the Game Commission can scientifically control the hunting season kill through the setting of proper seasons. Such facts and intelligent interpretation of them will insure the future of deer hunting in Pennsylvania.

STOLEN GUN

Winchester Model 12, pump action, 12 gauge, with a 32 inch barrel, raised rib. Gun equipped with Polychoke, Serial Number 999560. If you have any information on this firearm, notify Mr. J. H. Cornett, R. D. No. 2, Coatesville, Pa.

Introducing . . .

A New GAME NEWS Cover Artist

Margaret Rose Blair was born in Williamsport where her father, the late George W. Reinbold, was an artist and cartoonist on the "Grit," Pennsylvania's famous farm weekly. Her father was quite a naturalist and instilled his love of nature in his and the neighbors' children with long hikes, fishing, or just observing. The Reinbolds moved to the Philadelphia area when Margaret was twelve. Four years later her resolve to become an artist became firm when she assisted her father in painting nursery animal murals on the walls of the Wills Eye Hospital. Her father signed the paintings, "Geo. W. Reinbold and daughter Peggy."

After graduating from high school she started to help her father in his studio, painting the models he carved of ducks and upland game birds, fish and game animals. They painted everything for sportsmen on anything from the finest china to old weathered duck decoys.

Mrs. Blair now lives on a farm in Delaware County with her husband and two small daughters where she is close enough to the Delaware River to study and paint the ducks and other waterfowl in the marshes as well as the birds and animals on the farm. She has been painting almost exclusively in recent years for "The Crossroads of Sport," a New York sporting art gallery.

GAME NEWS is privileged and proud to present two outstanding waterfowl paintings by Mrs. Blair on this and next month's covers.

New Federal Duck Stamp to Feature Blue Geese

A black and white opaque watercolor, featuring three blue geese in flight over a cattail marsh, has been chosen as the design for the 1955-56 Migratory Bird Hunting Stamp. Drawn by Stanley Stearns, Binghamton, New York, the design will appear on the 22nd stamp to be issued in the Federal duck stamp series. A panel of waterfowl experts and post office officials judged Stearn's drawing as best among 93 designs submitted by 66 artists from every part of the country.

The "duck stamp" has become familiar to all migratory waterfowl hunters and to stamp collectors and conservationists throughout the country since the first issue in the series went on sale in 1934. A new stamp is issued each year by the Post Office Department. It goes on sale July 1 and expires on the following June 30. Nearly twice the size of a special delivery stamp, it sells for $2. Everyone over 16 years of age who hunts migratory waterfowl is required to have one of these stamps in his possession in addition to a State hunting license. Duck stamp revenues are used to supplement other funds appropriated to the U. S. Fish and Wildlife Service for the purchase development, administration and maintenance of waterfowl refuges throughout the country.

NOTICE ON BOUNTY RATES
PENNSYLVANIA GAME COMMISSION
(Except from Official Minutes, Pennsylvania Game Commission Meeting, January 7, 1955)
RESOLUTION

WHEREAS, After giving due consideration to the present predator population:

THEREFORE, BE IT RESOLVED, That the Pennsylvania Game Commission, acting under the power and authority vested in it by the provisions of Article XI, Section 1101, of the Game Law, by resolution adopted this 7th day of January, 1955, hereby directs that for the period beginning June 1, 1955, and until further notice, the bounty payments authorized for the birds and animals enumerated below, if killed in a wild state in any county of the Commonwealth during the period specified and presented in the manner and under the conditions stipulated in the Act aforesaid, shall be as follows:

1. *Gray Fox*—$4.00 for each gray fox.
2. *Red Fox*—$4.00 for each red fox.
3. *Great-horned Owl*—$5.00 for each great-horned owl, adult or fledgling, killed during all months excepting November and December.

BE IT FURTHER RESOLVED, That the foregoing resolution shall be duly published in accordance with Section 1102 of Article XI of the Act aforesaid in the February and March issues of the PENNSYLVANIA GAME NEWS, also to be brought to the attention of the public by news release and other sources of public information; and

BE IT FURTHER RESOLVED, That the Executive Director is hereby authorized and directed to certify the foregoing as an act of the Pennsylvania Game Commission.

"I hereby certify the above to be a full, true and correct copy of the resolution establishing bounties on certain predators killed in a wild state within the Commonwealth from June 1, 1955 until further notice. Notice of this action is published in accordance with the requirements of the law."

Logan J. Bennett
Executive Director
Pennsylvania Game Commission



OUTDOOR FUN WITH A FUTURE



How to Make More Living Space for Wildlife

By Ted S. Pettit

A wildlife conservation artist had the job recently of drawing one illustration that would show clearly and dramatically how landowners could provide more living space for wildlife. That was quite an order and the artist spent considerable time thinking out the answer. Finally he came up with a drawing that showed better than anything that had been done before, what wild animals need in the way of a place to live. And it was a rather simple drawing at that.

The drawing showed the corner of a field, where a cultivated field touched a hedgrow and woodlot. Superimposed over the drawing was an outline of a house, showing a bedroom, a dining room and a nursery. The idea was that wildlife animals need a place to eat, a place to sleep (or hide from enemies) and a place to raise their young. The cultivated field and the edge of the woodlot in the drawing supplied the place, and food to eat. The hedgrow and dense growth of the woodlot edge was the bedroom—or the place to hide; and the brambles in the hedgrow also provided a safe place for the nest or den —the place where animals could raise their young.

It was easy to see, from the drawing that wild animals were much like people as far as their needs were concerned. Like people too, wild animals will only live and prosper in a place where those needs are met. The problem in wildlife management is, then, how to provide the conditions that animals need so that they can live and reproduce young.

To understand how wildlife ex-



perts go about the job of improving conditions for game animals, first it is necessary to understand a principle that is known as "carrying capacity" of the land. At the risk of over-simplifying it, any unit of land may be compared with a pail or bucket. You can get just so much water into a bucket. If you try to put in more than the pail will hold, the surplus will spill out. A given unit of land will "carry" or support just so many animals. If you try to put in more than the land will support, the surplus will spill out—move away or die because of lack of food or other requirements.

Land varies in its carrying capacity, or its ability to support animals depending upon said fertility and its ability to grow the plants that animals need for food and shelter.

Let's look now at what wildlife technicians do—and at what you can do—to provide the bedroom, dining room and nursery for wildlife. These things can be done on large or small farms, on campsites, or even in small suburban backyards. The chief difference will be size.

One of the most interesting examples of how effective planting different kinds of plants can be, is the work done by a bird-bander who lives about ten miles from the Empire State Building on heavily built-up Long Island. His backyard is forty feet square. It is completely surrounded by two story houses, and similarly small yards. The rest of which are filled with clotheslines, garages, lawn furniture and children's bikes or scooters. If you can imagine a forty foot square "island" in the middle of thousands of acres of concrete, macadam and houses, you can picture that yard.

In the course of a year that bird-bander traps and bands some sixty species of birds—and records eighty or ninety species that stop there to feed or rest. It's due entirely to his selection and variety of plants that provide some of the needs of the migrating birds. Obviously though, he doesn't use his backyard for anything except birds.

The average farm is different. A farmer must make a living from his farm, and wildlife is secondary. If he can combine good farming with wildlife, so much the better, and many farmers can once they know how.

On the average farm there are several places that can be used just for wildlife, and other places that can be managed to produce wildlife along with other farm crops.

Those places that can be used primarily for wildlife are such spots as waste areas, fence rows and woodlot edges.

Waste areas as far as farming is concerned are rocky outcrops, old gullies, steep, rocky hillsides, swampy or wet areas, and similar spots where crop production is not practical. It might cost more to use these areas for agriculture than the produce is worth; or the cost of improving them is not worth it; or they are too small to make it worthwhile; or the nature of the land itself may be such that is better to leave it in grass or trees to prevent erosion, than to farm it or use it for pasture and risk an erosion or wash problem later on.

These areas are best fenced off, in one way or another, to keep livestock out and to allow grass, brush or planted shrubs to grow—all of which may supply the needs of game animals.

Let's suppose there's a rocky area on a farm, or on a campsite, or on a piece of land where you can do some conservation work. Or suppose there's some other sort of area that's not good for much else, and you can use it for a wildlife management experiment. If it is in a pasture, you'll need to fence it—otherwise, you won't. But in either case, you can plant a "living fence" around it—multiflora rose.

Multiflora rose is a shrubby rose bush that will grow seven or eight feet high and about five feet across. If a row of these bushes is planted so that the bushes are a foot apart, you'll have a dense fence of rose caves that are covered with thorns that discourage man or beast. These bushes provide cover for small animals and some amount of food.

The bushes, like other food shrubs, may be planted by hand or with the help of farm machinery.

If a tractor and double bottom plow is available, run it down and back the row where the fence is to be planted. Then disk the row to break up the sod and prepare the planting bed.

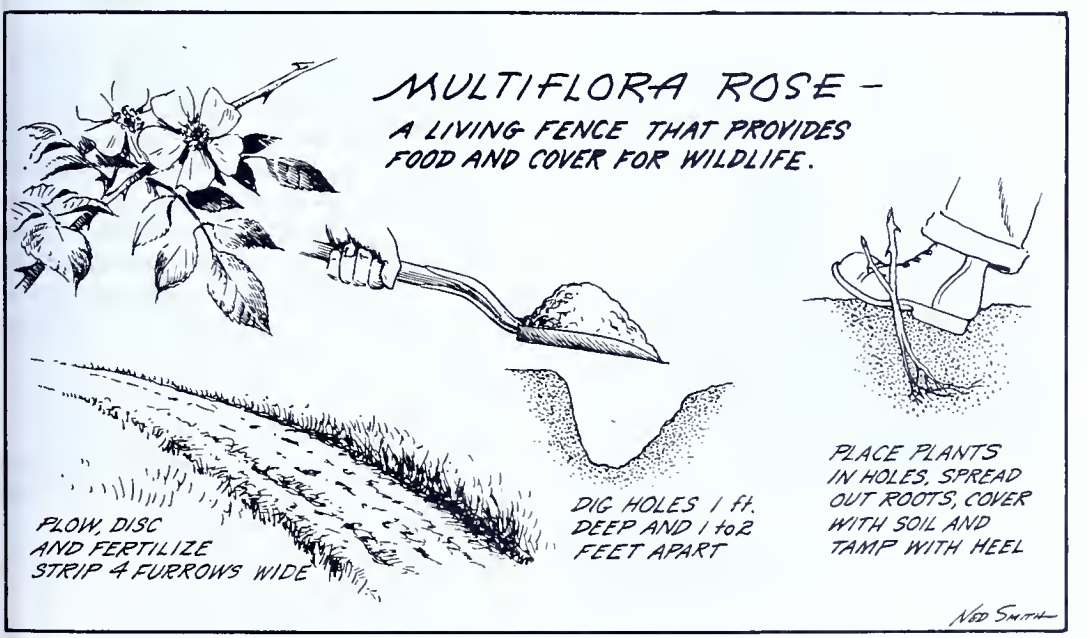
To plant the roses, or other shrubs, first put them in a bucket of wet moss or water to keep the roots moist. Walk down the row and set the shrubs a foot or two apart. The easiest way is to have a companion help you. One fellow carries a shovel and lifts out one shovel full of dirt to a depth of 10 or 12 inches. The other fellow separates the shrubs and places one in the hole with roots well spread out and straight down to the bottom of the hole. The other fellow fills in the soil around the roots, and the fellow carrying the shrubs tramps down the soil firmly with his heel around the roots.

During the first growing season, and perhaps the second, it is well to cultivate these shrubs and to apply a little commercial fertilizer. This will keep down weed competition and give the shrubs a chance to get off to a fast, healthy start. This is especially important in some areas where deer or rabbits may browse on the new growth too soon after the shrubs are planted. A good, healthy root growth is necessary for the plants to survive.

But this "fence" or border is only the start. Other plants are necessary for food and additional cover.

In some places, wildlife experts have found that patches of trees such as pines or cedars planted inside the fence or border work well in providing cover. In other places, they plow the area and let it come up naturally in blackberry, raspberry, catbrier or elderberry—plants that grow on disturbed soil naturally in Pennsylvania, and which provide tangles for cover and fruit for food.

In with these plants certain weeds may grow—weeds like ragweed, pig-



weed, smartweed, foxtail that have seeds that birds eat.

If farm equipment is not available to prepare the planting bed, you can still plant shrubs, but it may take longer. You'll need a broad matlock or a shovel.

First stretch a string between two sticks, so you will plant in a reasonably straight line. Then with the matlock or shovel "scalp" off the sod on an area about a foot square. That means remove the grass or weed sod to a depth of three or four inches so you have a small patch of mineral soil cleaned of weed or grass roots. Then soften up the ground to a depth of a foot or so, remove one shovel full of soil, place the shrub roots in the hole, fill in the soil and tramp it down. With some shrubs it is helpful to use a little fertilizer as you plant, and to mulch around the newly planted shrub to hold back weed growth until the plant is established.

If you want to make a more or less solid planting inside the "living fence," or if you want to try planting a "wildlife food plot" that in many states has been quite successful, there are other plants to use. Generally you plant them in double rows or even in rows of four across the small area—or sometimes in blocks. When you are all done, you have a small area of land that looks like a patchwork quilt of different kinds of plants—or it may resemble a miniature football field, with strips in between the yard markers each planted with a different kind of food shrub.



Shrubby dogwoods such as silky dogwood, high bush cranberry, viburnum, lespedeza or other "clovers," small grains, corn, and other food bearing plants may be used.

One of the best places to plant a border of food shrubs is along the edge of a woodlot. The land for several feet out from the woods will not produce much in the way of cultivated crops because the roots of the trees extend out and sop the soil of water and minerals. But this strip of land will grow food and cover shrubs for wildlife.

In some places, pines have been planted right in the edge of the woods. The trees will grow in the open shade and for several years will supply cover. Between the pines and the cultivated field, food shrubs mentioned above will grow to provide additional cover as well as food.

Another excellent place to plant a variety of shrubs is along fences. These fence rows of multiflora rose or other shrubs serve an added use of slowing up water, as well as provide roadways along which animals can travel to get from food to cover or from food to more food. Most farmers find that the small amount of land that is taken up by shrubby fence rows is well worth it, since the wildlife that uses it can well be considered part of the farm crop.

Let's sum up now for a minute, and list wildlife plants in chart form as to how they may be used:

Food plots, protected by fencing or a living fence.

corn, oats, wheat, buckwheat, bar-



ley, clover, lespedeza, partridge pea, and annual weeds such as ragweed.

Fence Rows or Hedges between open fields.

multiflora rose, coralberry, honeysuckle, hazel nut, silky dogwood, high bush cranberry, Russian olive.

Field borders or fence rows.

Nannyberry, highbush cranberry, silky dogwood, Tartarian honeysuckle, bayberry, coralberry, hazel nut.

Steep hillsides, road cuts or other steep areas to reduce erosion and provide cover or food.

coralberry, honeysuckle, bayberry, bittersweet, multiflora rose.

Cover plants in old orchards, or in food plots.

Pine, spruce, cedar.

Earlier we mentioned that you should understand the principle of "carrying capacity" of land to know why planting for wildlife is an important management practice. Can you figure out the reason now?

It's not the entire answer to how we may have more wildlife. But it is part of the answer and a big part. By planting food shrubs and plants that provide cover we are increasing the ability of the land to support more animals. It's a little like building an apartment house on a city block where there used to be one story, or family houses. The apartment house would provide more space in which people could live. More families could live on that city block in an apartment than in one family house.

More food, more cover—in other words, more dining rooms, more bedrooms and more nurseries for wildlife—in the form of the right kind of plants, will mean more living space for wildlife, when there is more space of the right kind to meet all their requirements, animals will move in and use it. It won't be necessary, generally, to introduce them.

You can help yourself have more outdoor sport in the future by working in conservation today. Spring is the planting season. Let's get started now.



THE SWAN LAKE CLUBHOUSE used by the "Coachmen" is a property of which any sportsmen's club could be proud.

How the Coachmen Did It

By N. R. Casillo

IMAGINE, if you can, a sportsman's group organized about a year ago which either owns or has practically unrestricted access to 1) a camp in deer and turkey country, 2) a waterfowl shooting property on the Pymatuning, 3) three miles of fine trout stream which it improved and stocked, 4) an eleven acre lake now in the process of filling, 5) a four acre warm water pond complete with clubhouse, largemouth bass, walleyes, catfish and bluegills, the pond doubling as a skating area in the winter; 6) a well organized plan for raising pheasants and quail; 7) a program of winter feeding which regularly places the food in the right places.

"Yeah," you may remark, "but it probably cost them a pretty penny."

Amazing as it may seem, the cost per member was about equal to the price of five boxes of shotgun shells or, if you prefer, a good quality steel bait casting rod.

The secret of the Coachmen's success may be stated in one word, SERVICE with capital letters. For no other reason than that it headed the agenda, they first sold the farmers through whose lands flows the trout stream, the idea that they (the farmers) would benefit from the project. For over a decade the stream had been closed to public fishing for the same old reasons, namely, vandalism and an utter lack of respect for private property. It took a lot of leg work, considerable back breaking labor and a masterful selling campaign to convince the farmers. But the small outfit, consisting of but thirty members at the time, turned the trick. The trick? Easy. They had to show the

land owners that they meant business by 1) immediate improvement of the stream, 2) patrolling of said stream by members during the open season to forestall destruction and depredations, 3) repairing any damage to property if any was incurred.

Farmers and other land owners are easy to deal with when once convinced that the deal they are getting is a fair one. After all, they, like any one else, are amenable to equal and mutually beneficial treatment. Farmers, through bitter experience have discovered that merely giving outdoorsmen permission to hunt and fish on their land is not enough. There must be some individual or group of individuals who will assume responsibility. It's common knowledge that the farmers have for years been carrying a burden which is becoming increasingly problematical. The one saving factor in the whole business is the fact that most farmers are they themselves lovers of the open, which, of course, is a good reason for the tolerance they have exhibited thus far.

Cynically amusing are those pictures of a farmer and a sportsman clasping hands while leaning on a barbed wire fence or across the pasture gate. Did the farmer get more than a good hand shaking and/or a piece of game for the sundry rabbits, pheasants, etc., which the hunter may have bagged on his land? The farmer furnished the land, the cover, the game food, and in many instances, the game itself. In return for all this the hunter merely indicated that he'd be careful or considerate or whatever else was necessary (and believe me, they do pull some dillies) to gain access to the hunting grounds.

If the arrangement between the farmers and the sportsmen is cooperative and fair to both parties, there just can't be any difficulty. But the point is that the sportsmen involved must carry out their side of the bargain. Yes, the Coachmen discovered that it entails much more than a lot of meaningless malarkey forgotten soon after the shooting is over.

The manner in which most of the weekly meetings of the clubs are conducted is another factor in its success. Can you, for reasons of comparison, recall one or two typical meetings of the average club? If some project was cooking, the chances are that after the regular business and entertainment was disposed of, the president or other presiding officer may have made an announcement about it and then added that members were urged to be present at a certain time and place. Now, honestly, how did the members respond to the proposal? Admittedly, fairly well at first, but the hard work finally resolved itself about a handful of old faithfuls.

Don't you think it a better plan to meet at the scene of a new project or at one already under way, issue the necessary instructions or assignments and then pitch in? After a reasonable session of work the boys quit to reassemble for a movie or a feed or both, followed by a brief powwow to discuss future plans. This may be beginning to sound strickly saccharine, but that's precisely how the Coachmen do it.

Another excellent switch is that they not only befriend and cooperate with the farmer, but also make him one of the gang if he is willing. To cite one instance, a land owner who turned over to the club his fully stocked pond (because he alone could not cope with the overwhelming growth of aquatic plants) plus a building on the premises for the club to do with what it may, is now one of its most enthusiastic members. How come? Because the boys invited him as well as a number of other farmers on a number of fishing jaunts followed up later with bear and deer hunts. Make a farmer one of the boys and you can't go wrong. The usual

practice is to make him an adjunct, an accessory, if you please. If he is willing to play ball he's a good fellow. If not, well, he's an unmentionable on whose land flocks game from all of the adjoining areas, game which he harbors for his four sons and himself as well as for one or two cronies. Anyway, that's what say those denied admission to the farm.

Recently an assigned committee met with state game officials to discuss the feasibility of raising pheasants and other game. Now, here's the payoff on that one. A number of farmers actually clamored to take on the project. Cooperation by the club in this project will consist of furnishing the material and labor for the construction of the necessary pens and brooders. And since this is primarily a conservation organization, the birds, of course, will be liberated according to Game Commission regulations.

In the wind are also plans for raising wild turkeys. But since this project is still embryonic nothing more can be devulged at this time. The club, however, does have the blessings of the Northwest Division office. The farmers have also evinced an interest in this delicate undertaking. As Charley McMurray of Slippery Rock township said, "I'd like to try my hand at it just to see if I can do it." An understatement if there ever was one because he's one of the best turkey raisers in these parts.

Speaking of farmer-sportsman relationships. One elderly chap from out Scott Township way said that these relations have thus far placed most of the emphasis on the sportsman. "All I ever got out of any such deal was a lot of trampled crops and a dead goat." He grinned at the laughter he provoked before adding, "Sure, I got paid for the critter, but the rabbits, the pheasants, the squirrels and the quail taken off my place netted me nothing but a lot of tomfoolery. Now, don't get me wrong," he pointed out, "this applies to a certain few, but they spoil it all for the rest."

Obviously, the farmer has for a

"CHIEF" BIDDLEMAN AND ED FRITZ, JR., founder and first president of the club, discuss the merits of a trout fly. Henry J. Hamilton recently succeeded Fritz as president.



long time been getting the short end of the deal. Indeed, this situation has prevailed for so long that it's no wonder most farmers raise their hackles when a bunch of strangers come along with guns and dogs to ask permission to hunt on their premises.

Another farmer who had not permitted any hunting on his place for four years told about ejecting a hunter off his lawn where the Nimrod was looking about for a squirrel which he knew was a pet of the family. "Wal, I scarcely got into the house to shed my working clothes when I heard a shot. By the time I got to the door the feller was stuffin' "Nutty" into his hunting coat as he legged it for his car."

This last was a ticklish case. But he was finally won over by impersonal sincerity expressed in deeds. He had to be shown. No one looks for nor wants sympathy, at least, not when it's overdone.

What about hunting and fishing privileges on the lands of those who have strung along with the Coachmen? It's simplicity itself. Each member, properly and adequately identified by a distinctive button, may hunt or fish on the premises. This may include a limited number of friends accompanying him who are not members of the club. Buttons are also provided for guests. Then, of course, the farmer may grant rights to whomever he desires just as has always been the case. The farmer is expected to use good judgment in issuing these rights. *All* sportsmen must register at the farmhouse before going afield or astream.

You can see from the foregoing that this is in no way a private club with privileges reserved solely for its members and their friends. For reasons of maneuverability and expediency, the club for the time being, has a limited membership roster. However, each prospect is thoroughly briefed and acquainted with the outfit's objectives before he is accepted. When he agrees to its conservation aims plus the continuous improvement of farmer-sportsmen relationships he is received with open arms. The objectives do sound altogether altruistic and Utopian, but a tremendous amount of local interest and comment has already been aroused. In this, as in any similar organization, success is assured if each and every member is in sympathy with its aims. That the members practice what they believe is exemplified by the fishermen members. The trout stream literally swarms with three species of trout and many of them have been taken, but so far the members have killed but one fish; in this case the fisherman justifying his action by a desire to keep the first trout he had ever caught on a dry fly. The use of barbless hooks and artificials keep casualties to a minimum. Two fish a day may be killed.

Let's cite an incident which really illustrates the cooperative as well as the selfless spirit of the Coachmen. Early last summer, in the course of their wanderings with car and trailer, four members stumbled on to a Canadian hunting and fishing paradise. The northern pike were gargantuan and literally crowded each other out of the water; the ruffed grouse were as unsophisticated as day-old leghorn chicks (and they were until the advent of the hunting season, as subsequently discovered by the deluded Nimrods).

The quartet returned with unparalleled tales. Moose abounded over much of the area, wolves howled at night, and fishing was unbelievably good. One of the four lifted a still bandaged finger. "See," he pointed out, "that's from trailing a hand in the water."

"Gwan, you're kiddin'," said one of the rapt listeners.

"It's true. Every word of it is true," solemnly pronounced the injured man's three buddies.



TWO PHEASANT PENS erected by the club can be seen from across the newly constructed Coachman Lake. A new club house is also being built here.

Last summer Coachmen made regular pilgrimages to that Canadian Shangrila. The club is too closely knit for the formation of any dangerous cliques. Next summer several of the farmers who go in for that sort of thing are joining up with trips already planned.

Most true sportsmen are generous to a fault when it comes to sharing with fellow Nimrods and Waltonians. Two of the club members own a trailer-bus outfit which was converted into what is aptly called *The Sportsman's Dream*. And it's a truly dream vehicle complete with cooking, eating and sleeping facilities for a dozen men. A deep freeze unit big enough to accommodate a couple of beef sides, and a refrigerator complete the culinary department. In their liesure moments the passengers loll about in an observation lounge which vies with any which the railroads can offer.

When any one is seized by wanderlust, he immediately attempts to pass on the contagion to enough other members to make up a party. Then, in no time at all the fully provisioned and equipt Dream is hitched to a powerful truck unit and away it goes.

The Dream may or may not be another influence in holding the group together and better still, in making it possible to advance their program. Yet, it's easy to see that it helps. Sportsmen have so much boyish enthusiasm that a thing like this can't help but appeal to their imagination; a flying carpet that can take them to the land of their dreams. The most recent extended jaunt was up into British Columbia. In the overall picture these trips are but pleasant adjuncts to the club's many activities here at home. With so much action a club doesn't have time to stagnate.

"But," some of you may complain, "the club got the breaks. Things just don't stack up that way for every outfit."

True enough, the club did get some breaks, but most of them were set up by the organizers themselves. The tremendous amount of time and effort of a small nucleus under the indefatigable and enthusiastic leadership of Ed Fritz, Jr., is now paying off handsomely. There always has to be a sparkplug behind any comparable program and it is safe to say that Fritz has spared neither time nor

effort in gathering about him men representative of every class and interest who are willing to work for the betterment of all fellow sportsmen and have a good time doing it. A worthwhile incentive coupled with a judicious amount of recreation will always produce a lot of enthusiastic backers and workers. At the meetings no one carries the well known torch, there are no political machinations or manipulations, no one seeks the limelight. When there is disagreement it is all quietly threshed out. Last summer when a couple of members found themselves differing from the majority opinion, they quietly withdrew from the room and donned their bathing suits to pull weeds out of the pond while they thought it over.

All of the members are residents of Lawrence County, the majority of them living in New Castle. Some of the members are well known civic and political leaders, and embrace a wide range of trades and professions. Names of members well known in the area include, George Bolinger, Henry Hamilton, Jack Gerson, Frank Coen, Elder Bryan, Jack Helmick, Ed Linton, Chuck Ferver, Ray Stoughton. D. O. Davies, Maurice Neilson, Ed Fitz, Sr., D. Emrick, Dock Rea, Bill McKeown, Michael Fazzone and Johnny Norris.

The club meets weekly either at their Swan Lake club house or in the Big Game room of Robinson's Restaurant.

It may be added that practically all of the members already belong to one or more Lawrence County sportsmen's outfits, many of them being officials. The Coachmens Club is a member of the Federation, and kindred associations and has representation in the County Council.

CLAIM OLDEST AND LARGEST HUNTER TITLES

Game Protector Bruce Catherman, Indiana County, says: "In Blairsville we may have the state's oldest active hunter. He is Reverend R. E. McClure, age 94, who hunted the first day of the 1954 small game season from 9 a. m. to 4 p. m."

The Ambridge, Pa. newspaper *DAILY CITIZEN* says that's well enough but claims the state's largest hunter hails from a neighboring town. This man, a 44-year-old outdoorsman, J. D. Steele, stands 6 feet 7 inches, weighs 437 pounds and is president of the Beaver Falls Sportsmen's Club. He has hunted deer for years in northcentral Pennsylvania. The paper reports Steele hunts all day, walking slowly through the woods but covering many miles each day out.

BONE TAR OIL SPRAYS REPEL DEER

In a 1954 issue of Science For The Farmer, Pennsylvania State University experts on deer damage and its control made the following report:

"In carefully conducted experiments, sprays containing bone tar oil have repelled deer from apple trees, nursery plantings, forage and other crops. Applications have proved effective for approximately one month under average conditions.

"Under pressure of heavy feeding due to over-populated ranges, it appears that deer may be difficult to repel. Further research is under way to improve the repellent formulation.

"Although bone tar oil does not appear to repel rabbits, limited observation indicates that it may repel other species of animals, such as beavers and woodchucks."

Honoring the Other Dog's Point

By Herbert Kendrick

HONORING the bracemate's find is not only regarded as an act of refinement in the field but is an essential qualification of the finished gun dog. This act of courtesy is to be taught, encouraged, and forced, if necessary, in all pointing dogs. In his eagerness to locate game it is a natural tendency of a young dog to exert every possible effort to make a find, even if it means stealing it from his mate already on point. This act of jealousy has no place in the hunting field, and from the very beginning the dog must be taught to staunchly back. No matter how good a nose he may possess, nor how careful he may be, the hazards of flushing game are always present when he creeps past a pointing dog. One of the great thrills of upland game shooting is produced by the fine performance of well mannered dogs, and the deep satisfaction of seeing one dog courteously honor the other is well worth the time and trouble required for the training.

At an early stage of training the puppy may back naturally; but at a later date the same animal may forget these early actions, and deliberately refuse to back. If this should occur, it is time to cure him once and for all. The trainer cannot become careless for a moment and hope the dog will not repeat the act. If he is allowed to get by with it, he will invariably repeat it, and the task of correcting him will then be greater.



In teaching the young dog to back, an invaluable aid is an experienced bracemate. The older dog finds game without difficulty, and will remain staunch long enough to give the young hopeful a satisfactory lesson. The pup's attention is attracted to the dog on point, his jealousies are not yet aroused, and it is usually natural for him to attempt to imitate his more experienced superior.

When he shows signs of backing, be very careful to show your approval. Give more attention to the young dog than to the older one on point. Stroke him gently, speak to him encouragingly and let him know he is pleasing you. His feeling of importance will grow with each lesson, and he will feel that backing is just as important as pointing itself. Leave the older dog on point for a long time, and keep the pup backing until he thoroughly understands his position. When he begins to tire, walk in and flush the game.

While teaching a young dog to back, you are laying important groundwork for teaching to point and to remain steady to wing and shot. Teaching to back is not a difficult task; however, it does take time. One lesson is seldom enough. It must be repeated often and long enough that near perfection is acquired. Each time an error is committed he should be taken back to the spot and made to accept correction there.

If the pupil does not back naturally at sight, then the use of a check cord is necessary. The procedure is the same except that you have better control over him. Hold the end of the cord and let the pup go toward the pointing dog; stop him at the desired distance, then creep up to him



HONORING A BRACEMATE'S FIND is an essential qualification of the finished gun dog. Here "Watchung Bosun," left, owned by the late George Thayer of Middletown, New York, backs "Thompson's Pilot Pat," owned by C. M. Thompson of Bellefonte at the York IWLA Field Trials, Indiantown Gap, in 1949.

using a soft yet firm command to "whoa." If he does not hold himself erect, gently lift his head and tail until he holds a position of a lofty pointing dog. Exercise extreme patience and avoid excitement. Easy firmness quiets a dog and encourages obedience. Excitement and loud shouts only lead to confusion. Far too many dogs have been ruined through impatient training and lack of understanding.

Physical punishment should be administered with extreme care, or the puppy may become shy and afraid.

Care should also be exercised when using an experienced dog to help train the young fellow because the pupil may become too dependent on his bracement to cover the territory and hunt for game. If he should show signs of losing his initiative, take him out alone for awhile.

A dog should be taught to back *at sight* of his partner. He should move up only as the hunter walks toward the pointing dog.

On a quail hunt, recently, four dogs were in the field at the same time. There was no fear of confusion or danger of flushed game because these dogs were well trained to back, and it was a beautiful and thrilling experience to see one dog on point and the other three backing in various parts of the sedge field.

If you own and hunt only one dog make arrangements to hunt with someone else and his dog so that your dog will continually respect the bracemate's point, thus making the hunt more enjoyable for everyone concerned.



Dear Sirs:

Enclosed you will find pictures that may be of interest to you. They were taken in the Moores Run section of Potter County on December 3, 1952 with a Brownie Flash camera at 7:30 p. m. As the hunters in my camp began coming out of the mountain at quitting time, several of us spotted the den. In checking closer, we found Mr. and Mrs. Bear partly asleep. After supper we returned to take these pictures. After we were satisfied with our snapshots, we left quietly so that nothing was disturbed. In February, 1953 several fellows and I drove up to see if the bear was there. Sure enough, we found it sound asleep. In trout season. however, another check found the den vacated.

Sincerely,

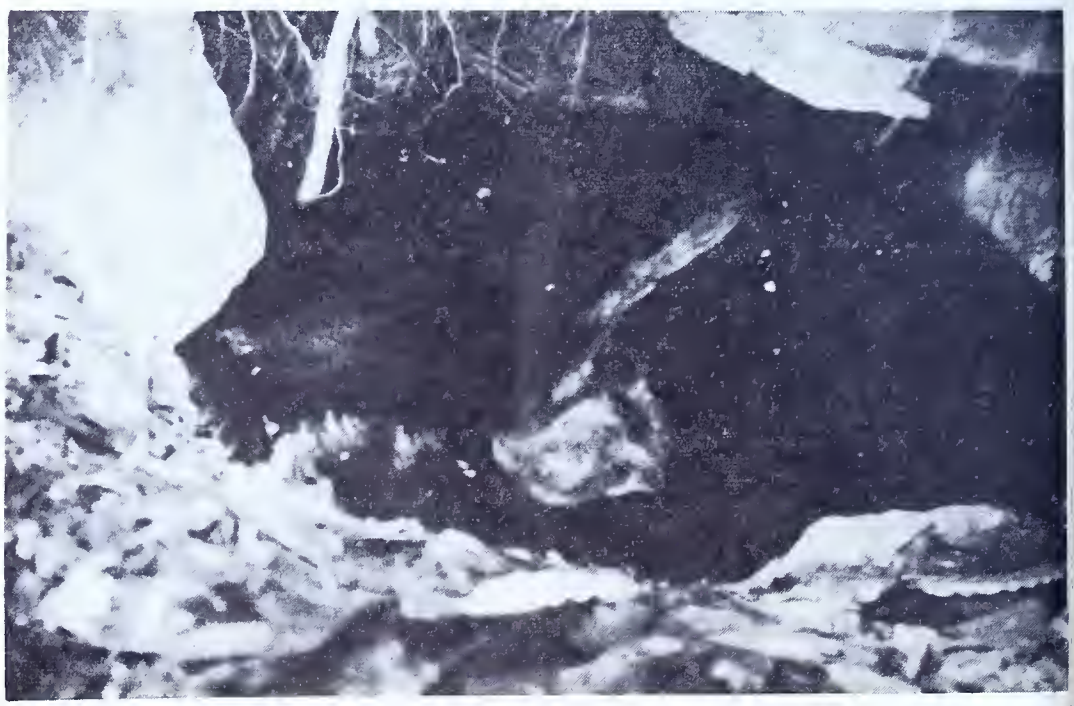
C. S. Shriver
Deputy Game Protector
Gettysburg

Dear Sir:

I was more than glad to read in the December GAME NEWS the article, "Elk Live Here." I believe if more sportsmen would keep every hunter's mind on the fact that elk do roam this section of the state, there wouldn't be so many fine elk left wounded to die by so many trigger happy fools.

The enclosed photo was taken miles off the beaten path of cars in an area where elk roam and feed. My wife and I put up twelve of these signs last summer while putting out salt for wildlife. The signs are scrap pieces of aluminum siding painted white while the lettering is a good maroon auto paint. They should last for many years out in the open.

Over the past 28 years we know where elk have been trying to exist in our section. These signs have been placed on trails and roads that lead to hunting grounds where elk are





most likely to be found. I believe they have done some good. Over the years I have seen elk, from eight in a band down to a single cow. Seeing two bulls and two cows grazing in the morning sun is a sight to behold but seeing these same two bulls laying dead only a week apart in deer season is just the opposite. We know of seven elk near our camp in Elk County and I only hope they will receive the protection they so deserve.

Benjamin A. James
McKeesport, Pa.

Dig That Woodchuck?

Woodchucks, commonly called groundhogs, may be dug out of dens in cultivated fields and killed by a hunter in any manner during the open season. If you wish to dig out a 'chuck, however, you must first obtain permission from the farm owner or occupant. The excavating operation completed, the digger is required by law to immediately replace the earth and level the area.

Dear Sir:

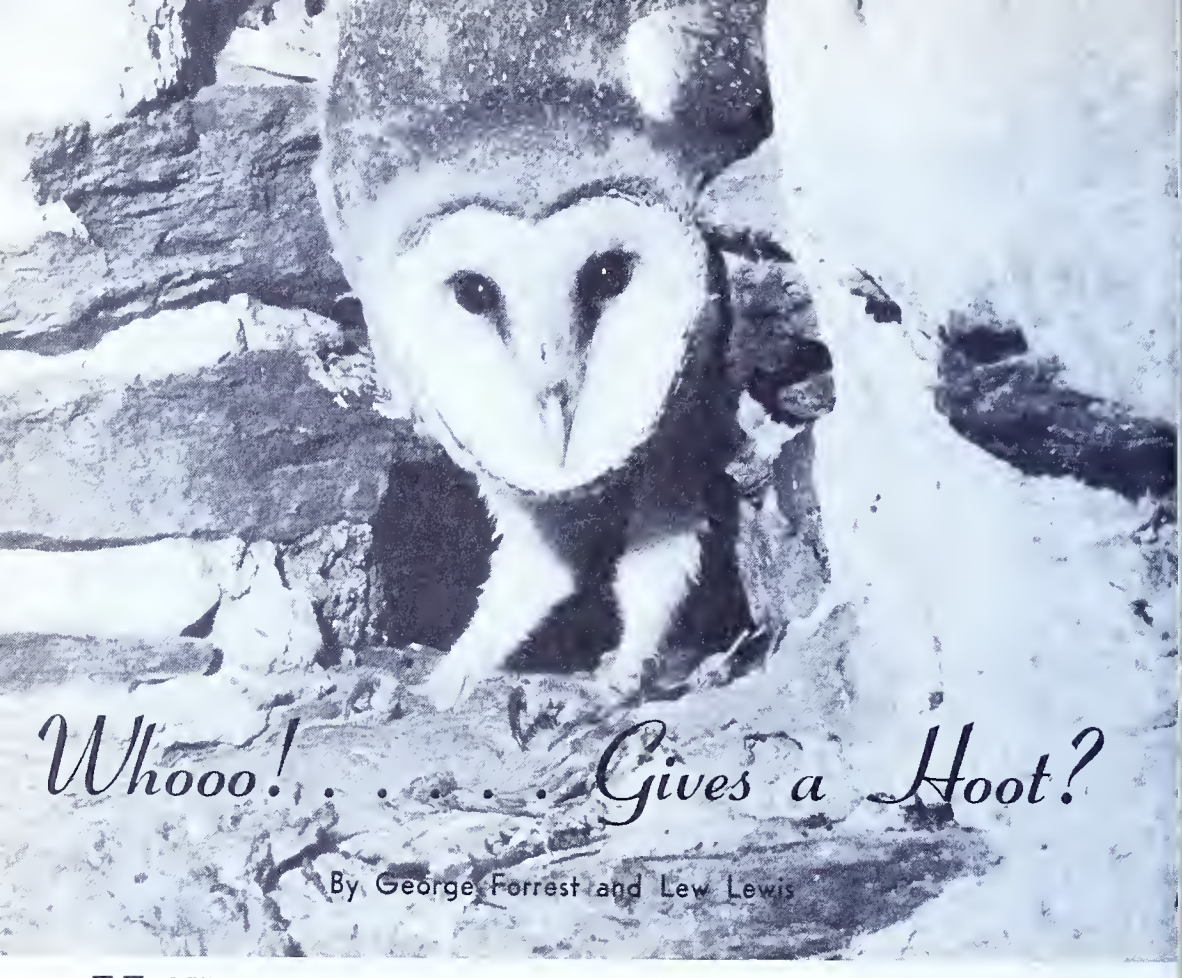
I thought you might be interested in the enclosed picture. It shows one of your game protectors, Max Ostrum, demonstrating the "dirt hole set" for fox to members of the Pine Creek Chapter, Future Farmers of America, Galeton High School.

Our Chapter is participating in a trapping (predator control) contest sponsored by the Kettle Creek Sportsmen's Club. This sports-minded organization is giving a $25 first and a $15 second prize to the F. F. A. members having the greatest number of points in this contest. Last year we had a similar trapping demonstration by one of your men and we appreciate very much their sincere interest and cooperation.

Our group of budding farmers this past year has cooperated in planting trees for local farmers, bought and planted 2500 trees for the FFA club, planted 1200 wild grape cuttings, aided in stocking trout, has built bird feeders, stocked bullheads in local beaver dams, and has promoted subscriptions to your magazine.

Very truly yours,
Marie Burrous
Secretary, FFA
Galeton





Whooo! . . . . . Gives a Hoot?

By George Forrest and Lew Lewis

HIGH up in the rafters, barns and church belfries are ghosts and ghouls seldom seen by humans. They're the barn or "monkey-faced" owls that prowl only in the night. Most folks think them extremely homely, if not downright grotesque but they have a weird beauty with heart-shaped faces and marvelous tints to their speckled feathers.

While they are referred to as "monkey-faced" birds, they are not as wrinkled nor as homely as a monkey. The barn owl is one of the most widely distributed birds in the world, found on every continent. Caves in South America give evidence of their inhabiting the area for several centuries. In Flushing, N. Y., owls inhabited a church belfry from 1880 to 1926 or 46 years of continuous residence. Most famous barn owls on the record are those in the tower of the Smithsonian building in Washington. An egg was taken from the nest more than 880 years ago and the barn owls have been living there ever since under the protection of the officials at the institution.

All owls have a sort of grotesque beauty including those rare visitors from the North country, the snowy owls. There are birds such as phosphorescent barn owls with feathers that glow with a ghostly light in the night. This glow is not a figment of the imagination but is believed to be caused by the contact of the bird with fungi that is found in rotten wood in cavities where the owls hide in daytime. Anyone seeing these glowing specimens flying in the dusk would swear they were a new sort of flying saucer.

The barn owls are extremely beneficial to Pennsylvania farmers because their diet is largely composed of mice and other rodents. It takes a lot of persuading to get permission to take a photograph of the birds from the farmers who don't want the birds disturbed. After you manage to wangle permission, it takes the skill of a mountain goat and the patience

of Job to get a close-up shot.

To get the pictures accompanying this article we had to climb at least 30 feet high, over hay and straw bins, rafters to a point where we actually saw the birds close-up. When we first got into the huge barn the flying shapes of the birds seemed to come from everywhere like ghosts flitting from one end of the barn to the other. When you did get close enough to one, he'd glare at you for a moment, then melt into a hole in the straw.

We did manage to corner a few that stood their ground, threw up their wings in what appeared to be an embarrassed attitude. They made no effort to lash out with beak or claws, merely tried to cover up. In order to get a sharp focus, one had to hold a flashlight on the bird while the photographer adjusted the lens. Most of the time, our lensman had to lie on his stomach and shoot through holes in the straw or between rafters. Needless to say, we picked straw and weedseeds out of our ears for days. To get pictures of these birds one had to have considerable practice at walking the plank.

Although barn owls swallow their prey whole, a strong digestive system soon rolls up the fur and bones into a tight ball which the bird coughs up but not without lots of noise and a great struggle. According to authentic reports from bird watchers, the courtship of the barn owl is very closely related to, or synchronizes with the full moon.

In size the baby owls look like stepping stones because they hatch about two days apart and do not look like twins or triplets at all. The young are fed by the old birds and if you listen intently you can hear

BARN OWLS HAVE A WEIRD BEAUTY but an extremely valuable dietary preference for mice and rats. They are protected by law in Pennsylvania.

Photo by Robert W. Motter



them eating with a sharp sucking sound much like a crude human noisly slupping soup.

Pictures shown are of young birds, presumably hatched last Spring. Rarely do the older birds return to the barn after the young reach the age where they are old enough tc take care of themselves. Howard Myers of R.D. 1, Dallastown, Pa., in whose barn the pictures were secured, tells how last spring when the old birds were caring for the newly hatched, he heard a great commotion that sounded like a hound dog squealing like a pig caught under a gate. Upon investigation he found one adult owl had carried off his small terrier and deposited him in the hay loft high in the barn. The dog was rescued, unhurt by his experience. On another occasion the older birds carried a full-grown skunk into the barn.

This illustrates how powerful the birds really are with their sharp bills and vise-like talons. Yet, they've never been known to deliberately attack humans. While some owls prefer to frequent holy places such as church belfries, others seek out more evil locations, haunt deserted houses and scare the daylights out of anyone seeking to prove the place isn't haunted.

Farmers, however, are used to them and their nocturnal flights. They won't allow them to be disturbed because they are a distinct asset to farm property, destroying rodents that would in turn destroy grain crops. This feathered gent, like the dog, is one of man's best friends. They have adapted themselves to man like no other bird, have taken up nesting places in many types of man-made buildings. Strangely enough, we know of several persons who have barn owls in their attics in the heart of the city.

Though we don't recommend it, if you crave a little ghost hunting on some stormy, eerie night, try climbing into the uppermost rafters of a barn or church steeple and watch for these unsual birds, so widely distributed throughout the world, yet so seldom seen by man.

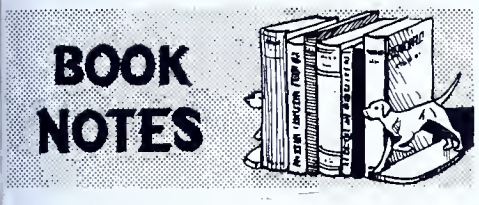
. . . *The End*

New York Adopts Experimental Turkey Program

Everyone likes to watch the comeback of a champion. Sportsmen in New York are following closely an experimental program of the State Conservation Department with the heavyweight king of the upland game birds, the wild turkey, according to the Wildlife Management Institute.

The movement of turkeys from Pennsylvania into the southern part of the Empire State has convinced the New Yorkers that the time and conditions might be right to extend a helping hand. Under a four-year plan adopted recently by the department's bureau of game, approximately 550 birds will be released each year in the southern counties. So that the turkey stocks and the liberations will be uniform, sportsmen's groups have been asked not to rear wild turkeys until after the four-year period. To safeguard the state's many turkey breeders and the flocks already established in the wild, each bird is tested prior to release for pullorum, a diarrhea-like infection.

No newcomer to New York State, wild turkeys once were scattered throughout the better stands of oaks, chestnuts, and hickories in the southern and eastern counties. Although much of their original range now is unsuitable, ample food and cover apparently exist in the southern part of the state. Here also the continuing reversion of deserted farmland to forest cover is encouraging.



FUN WITH TROUT

By Fred Everett

Copiously illustrated with 4 full-color plates, 15 full-page black and white sketches, and hundreds of thumbnail sketches by the author. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania; 1952.

287 pages. Price $7.50

This is a large handsome volume which will appeal to any fisherman and, in particular, to those members of the fishing clan to whom "fish" means "trout." No one but an artist could have prepared such a volume, and no one but an artist with Fred Everett's love for the sport and wide experience could have written the text.

The book reduces trout fishing to its simplest, most productive terms, and as the name implies, the objective is to show the fisherman how he can most enjoy this popular sport. The text is divided into three parts. The first offers information on all phases of trout fishing from the selection of tackle through to the landing of the fish. The second part is devoted to the study of trout and their habits, to trout foods and to the pleasures of fishing. The third portion concerns itself with the perpetuation of trout fishing through conservation. It tells of programs for stabilizing and improving trout streams which can be achieved readily with a minimum of material expenditures and a maximum of results by small groups of sportsmen or by clubs.

The entire volume is beautifully written, attractively presented, and the art work is outstanding. It would make an excellent gift for any fisherman.

THE OUTDOOR SCHOOLROOM FOR OUTDOOR LIVING

By William Gould Vinal

Purchase from William G. Vinal, R. F. D., Vinehall, Cohasset, Massachusetts; 1952.

69 pages. Price $1.00

Vinal writes, "This is a workbook which concentrates on the beginning days of discovering major foci of outdeer neighborhood life." The author believes that outdoor education begins at the local level and that children and teachers can carry the message to sympathetic neighbors. This volume has been written as a guidebook—a take-home textbook—to help teachers recognize the fundamental outdoor units in their communities.

The school ground is presented as the logical starting place to interest children in their natural environment. The booklet provides the teacher with lists of projects that may be undertaken by students, names of state, national, federal, and private organizations which may be called upon to furnish literature for reference work, and it outlines specific field problems which will permit the teacher to formulate a teaching program for outdoor education.

Dr. Vinal has had extensive experience in conservation education among our youth. As director of the nature guide school, University of Massachusetts, and professor of nature education at Boston University, Sargent College, he has conducted conservation education workshops in several states. Elementary school teachers should find this inexpensive booklet a good base upon which to develop class programs.



Wisconsin Area Yields Deer Management Lesson

Had legal restrictions and adverse public opinion been resolved in 1942 when it became apparent that deer were overrunning the Necedah National Wildlife Refuge in central Wisconsin, biologists estimate that sportsmen could have harvested nearly 9,000 animals in subsequent annual hunts, the Wildlife Management Institute reports. This was de layed until 1945, instead, and from that year through 1950, archers and gun-toting hunters took only 4,345 bucks and does from the 40,000-acre area.

In the absence of effective predators and with the influx of deer from the outside, the area's whitetail population swelled from 200 animals in 1939 to 2,000 in 1942, nearly 60 deer to each square mile. Following the appearance of a browse line in 1945, 2,000 bowmen were given the first opportunity to bring the irrupting herd under control. They bagged only 61 animals.

During the following winter, 12 deer, 10 of them fawns, were found starved, an indication that much of the required feed was beyond the reach of the smaller and weaker animals. A study of the refuge's plant life was made by members of the Wisconsin Conservation Department who found that species commonly sought by deer were overused. So drastically had these plants been cropped that half of them were close to death. Only a reduction of the deer would permit the plants to regain their former vigor and growth. If this was not done, large-scale deer starvation would result.

Opening the area in 1946 to general hunting was the first positive step toward bringing the herd under control. Kill data shows that 3,000 archers bagged 129 whitetails and 2,226 gun hunters took 1,637. In subsequent years lesser numbers of deer were killed, and by 1950 the range plants had begun to show improvement. A balance between plants and animals was being achieved.

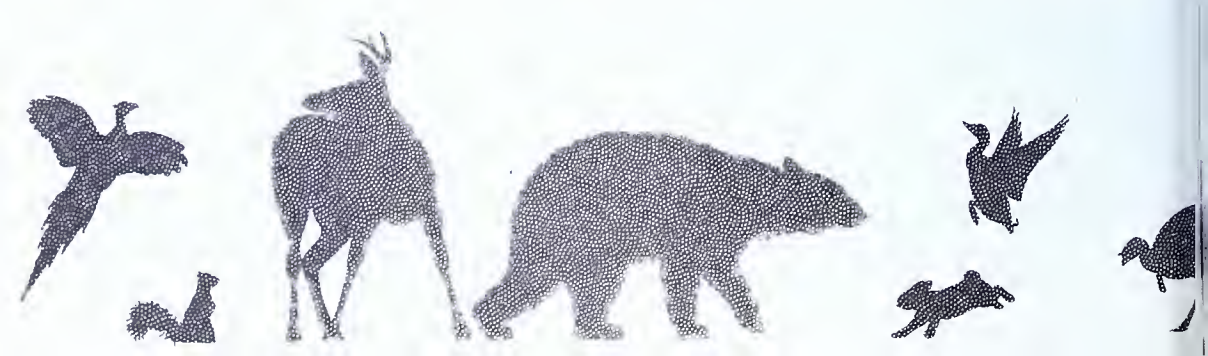
Review of recent big-game hunting seasons show that the public is increasing its support of deer management programs which link the animals to their supply of natural feed.

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THE STORY BEHIND THE COVER

WRAP a small bundle of feathered lightning in shades of gray, cream and brown, tint its head in a rich chestnut-red hue, add eye and wing patches of iridescent green mixed by the master artist—and there you have the drake green-winged teal.

Short on size but long on natural beauty, the little green-wing follows close on the webbed feet of the pintails and mallards in its flight north this month. Most of them left their winter haunts in the lower Mississippi Valley late last February. For the past few weeks the teal, smallest of all our waterfowl, have been drifting through the Keystone State enroute to the vast prairie regions of the northern states, western Canada and Alaska. The green-wing is a duck of inland wetlands, seeking the weeds and other aquatic plants of shallow water. This summer, nests containing as many as 18 eggs will dot the borders of northern lakes and marshes, foretelling the future of this valuable puddle duck.

Next fall, the first frosty breaths of approaching winter will start the teal on the move. But unlike many of their fair-weather friends, green-wings don't hurry south. Where there is open water and attractive feeding grounds, teal tarry long after most waterfowl have fled south. Some even winter as far north as southern New England and Nova Scotia.

For anyone who has shivered in a duck blind or sneak-boat, the mention of teal brings pleasant memories and exciting anticipation. This little duck is not only delicious eating—it also provides a tantalizing test of a gunner's skill. Although they decoy readily, teal circle and twist in a flight filled with frustration for the hunter. Due to its small size, a teal on the wing appears to fly even faster than the 60 m.p.h. generally accredited to it. At any rate, you can be plenty proud of bagging a single bird on a pass shot.

But whether you hunt them or merely admire them, everyone who sees the pair "pitchin' in" on this month's cover should be grateful that the One who designed the ducks didn't run out of patterns before coming to the green-winged teal.

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For the Permanent Good

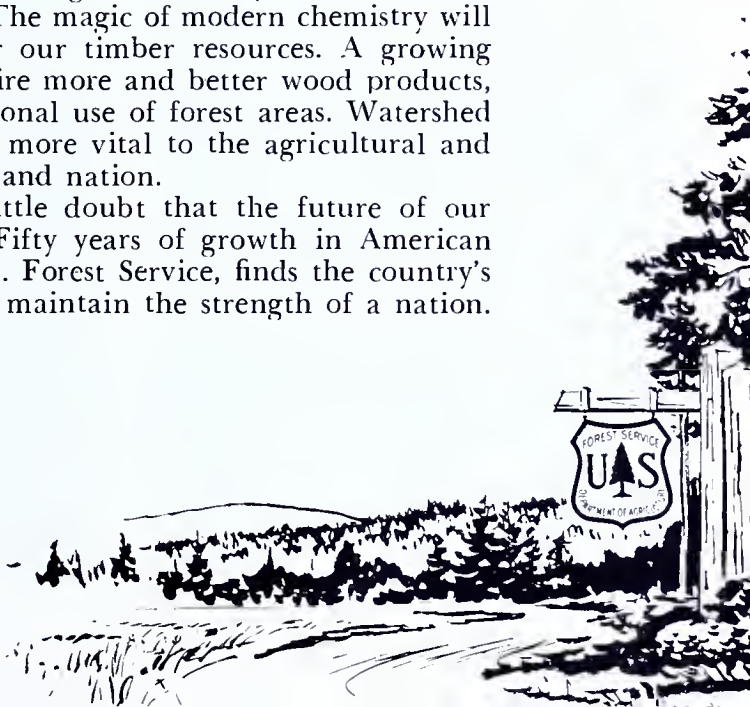
AS a tree grows, a new layer of wood is added each year. Nearly everyone has observed these rings of growth in some sawed-off tree trunk. In some years drought or other natural conditions prevent the tree from making much growth, the annual rings later appearing small and insignificant. Other years the tree thrusts itself higher towards the sun, a rapid growth reflected in larger rings. But always there is some growth, some progress towards maximum size and value.

So it has been with the U. S. Forest Service, which this year commemorates its golden anniversary. In Penn's Woods, as in all America, 1955 is an occasion to measure fifty years' growth of American forestry. And although the modern forester may note a few small rings on the Forest Service record (formed in the "seedling" years), he cannot help being impressed by the large, and lasting, circles of growth made throughout its half century of service.

Forestry's golden anniversary is filled with fine memories and rich realizations. For Pennsylvanians there are proud memories of Gifford Pinchot, the first native American to obtain professional training in forestry and the first Chief of the U. S. Forest Service. There are also gratifying realizations that the Keystone State still carries on the best in forest conservation tradition. On state and private timberlands, on the Game Commission's forest holdings, and on the Allegheny National Forest, since 1923 the Commonwealth's great multiple use asset, Pennsylvania forestry is still practiced "for the permanent good of the whole people."

But with the pride in past accomplishments, with the sense of satisfaction in present practices, there comes the even more important knowledge that still great forest production must be sustained for the future. The magic of modern chemistry will bring fantastic new uses for our timber resources. A growing human population will require more and better wood products, will make increasing recreational use of forest areas. Watershed protection will become even more vital to the agricultural and industrial thirst of the state and nation.

Now, however, there is little doubt that the future of our forest resources is secured. Fifty years of growth in American forestry, typified by the U. S. Forest Service, finds the country's woodlands strong enough to maintain the strength of a nation.





one of the several patches on the hill. Then too, there was always the thrill of expecting a grouse to come boiling out and not seeing the rabbit until it was out of shotgun range. Sometimes Ben let the hound run the rabbit just to hear the excited bawling.

Tippy stood on his hind legs straining at the chain, the collar pulling into his neck making his howls seem thick and hoarse. He had energy to burn and wanted to use it on the hill.

A few years ago, Ben thought, maybe fifteen or twenty, he would have let the dog loose long enough to collect a few rabbits or grouse. What if it was Sunday? One or two grouse wouldn't make any difference and no one would ever say anything about him hunting in back of his own house.

The Old Man had changed all that, changed it years ago when Ben had first started hunting, changed it at the time when it could be changed.

He remembered the incident as though it had happened only last week, and the pleasant recollection brought an amused grin to his face. It was during the first summer after Ben had met the Old Man, and the Old Man, intent on making a real hunter out of Ben, had dug up an old Ideal reloading tool and mould for the little 25-20. Together they cast the bullets over the cook stove and the Old Man carefully loaded them, cautioning Ben later to shoot all he wanted, "but make your shots count."

"When you shoot at game," he would say, "you owe it to the game to kill it cleanly and quickly. Nobody gets any good out of cripples whether it's woodchucks or deer."

Ben practiced with the little gun incessantly, shooting as much as a hundred rounds a week with it. His mother didn't mind buying the primers and powder, and after all, while Ben was hunting in the fields or woods, she was free to go to town or visit neighbors next door. Furthermore the occasional grouse, rabbit or squirrel tasted good and there were plenty of them.

Ben was a little ashamed when he thought how he had led the Old Man to believe he was always shooting at chucks, crows and targets during the early summer months. He never mentioned the game he killed, but the Old Man, trying to take the place of Ben's father, wasn't to be fooled.

It had been about the middle of June, just a few weeks after school was out, when Ben took the little rifle one morning, and followed the dusty cow path up the side hill and over the crest to the pasture lot on the back side. He had made a head shot on a chuck as the animal sat upright on a stone pile and later, he spent several rounds plinking at a paper target he had on a tree. That, he thought back, must have been what attracted the Old Man's attention, because just a few minutes later, he left the target to go over to the spring at the edge of the woods. He had his drink, and as he left the spring, he skirted a clump of thorn apple trees, flushing a grouse.

At the time he thought the grouse acted a little odd the way she fluttered around dragging a wing as though she was crippled. Without a moment's hesitation, the little rifle spat once and the bird jumped about doing crazy gymnastics while the blood spurted from her neck. Ben grabbed the grouse, pulling a handfull of feathers loose, and after field dressing it, he went home.

The next day, just as Ben and his mother were setting the table for the noon meal, he heard the old model "A" Ford clatter into the yard. The Old Man had come over and maybe he'd stay for dinner. Ben was putting an extra plate on the table when the door opened. The Old Man wasn't alone.

"They're baby birds. I don't know what kind."



"Hyar, Ben," he said, "I've got a feller here I want you to meet. Ben, this is Curt Andrews. Curt, this is Ben Holcom the young hunter I've been telling you about."

For a long minute Ben stared at the green uniformed man, accepting his hand with a firm grip. He saw the Old Man's nose twitch and all at once the room seemed drenched with the odors of cooking grouse. He wasn't just sure, but he thought he saw the Warden look at the pot on the stove and then maybe just a short wink at the Old Man. Ben's heart sank to his feet when his mother invited the two men for dinner. Didn't she know that grouse were out of season?

After a strained silence while the Old Man was filling his pipe, he told Ben that the warden needed some help on a little job, and the three of them went outside to the car. The Old Man took a bushel basket off the back seat, and placing it on the ground he told Ben, "take a look inside."

When Ben pulled the burlap back, his eyes bugged at the sight of the six, half-feathered birds which scurried about on the straw trying to burrow out of sight.

"Know what they are, Ben?"

"They're baby birds. I don't know what kind."

"They're young grouse; grouse that will be big enough to hunt this fall if they live."

"Won't they live?"

"Maybe. That's what Curt wants you to do, take care of 'em until they get big enough to shift for themselves."

"Sure, I'd be glad to do that. Where did you find them?"

"Up by that spring over the knob."

For a minute Ben was stunned. That was where he had killed the grouse yesterday. He wondered if the Old Man had seen the feathers on the ground. He looked up from the marks he had scratched in the dirt with his bare toe at the two men in front of him. Curt Andrews had a strained look on his face. His cheeks were flushed with crimson and his jaw bones stuck outward as though he was either mad or was clinching his teeth together to keep from laughing. The Old Man was just looking straight at Ben, letting the blue clouds of smoke drift upward from the corn cob.

"Ever see where a hawk or owl killed a grouse before, Ben?"

"No sir."

"Well, they usually leave quite a pile of feathers scattered around on the ground. But they don't leave the guts there, except maybe on special occasions. Curt and I figure that's what happened to the mother of these birds. A hawk or owl killed her an' was eating her when he got scared off by something, maybe a dog or even a person."

Ben noticed that Curt had turned his back and had walked off a few steps.

"A hen grouse with a brood," the Old Man said as he pointed the stained end of the pipe stem at Ben, "is pretty easy to kill. She sees a fox or dog or owl, and right away she leaves the nest and goes floppin' around on the ground like he has a broken wing. This way she leads her enemy away from the nest, and when she gets far enough, then she'll fly. 'Course, sometimes, she gets caught like the mother of these birds."

Ben kicked at the dirt with his toe. The Old Man knew, he thought, that no hawk or owl ever killed that grouse. He wished right then he could turn the clock back a few hours to the time he pressed the trigger. He never again would kill a grouse or even a rabbit out of season.

The Old Man went on talking. "Hunting seasons," he said, "are put in the fall of the year so that our game can multiply and get strong during the spring and summer. Sixty

or seventy years ago we didn't have any such a thing as seasons and if it hadn't been for a few men like Curt here who saw that our game was being killed off, you wouldn't be doing any hunting now, and if you want *your* boys to be able to hunt, you've got to help take care of our game. A few men like Curt can't do it alone."

Slowly the words seemed to imbed themselves in Ben's mind. As he turned and looked at the six birds in the basket, he heard the model "A" start and the Old Man shouted, "Curt will be over Saturday to see if you need any help. Take good care of the birds."

The penetrating aroma of buckwheat pancakes floated across the room, and as Ben turned from the window, he could still see the Old Man's pipe stem pointing at him, the thin curl of smoke eddying up into the clear sky above the grouse patch.

Food and Cover Developments on Game Lands

The establishment or improvement of wildlife environment on State Game Lands is an extensive year-around operation in Pennsylvania. Headed by the Game Commission's Land Utilization Division, and manned by the Food and Cover Crops, the work is supervised by Game Protectors in their respective districts. Assistance and cooperation afforded by sportsmen, farmers, Boy Scouts, Future Farmers of America, and others substantially increase the total accomplishment.

In the Game Commission's last fiscal year over 2500 acres of timberland were improved for wildlife. This was done by timber sales and by Commission men and machines through forest cuttings, thinnings, pushing over inferior growth with bulldozers, and releasing apple trees from suppressing vegetation. A total of 10,800 apple trees were pruned and some were grafted to improve fruiting. In the same period approximately 800 acres were improved by planting 245,700 evergreen tree seedlings and 584,000 other tree, shrub and vine seedlings and transplants.

Important as is the planting of trees, shrubs and vines, other operations that provide wild game with sustenance and protection make up much of the land utilization program. Since game species are the product of edge, Commission men cut many clearings and plant the openings to grains and grasses, following which seed and insect life—both important to wildlife—are found there. Also, other edge conditions like brush piles and natural growths beneficial to wild game provide protection and food.

Many food strips are established in remote areas on the Commission-managed lands. There they assist in holding wildlife away from farms and off highways. These plots have increased quite rapidly in recent years. As funds permit additional sites will be cleared and placed in production. On established areas crop rotation is practiced. Clover is maintained as long as possible because of its food, cover and nesting value. It has proved particularly valuable in the case of cottontail rabbits, which have increased markedly in such areas.

Last year more than 8,000 acre on State Game Land were treated by planting grain crops, seeding to legumes, mowing to improve fields of clover, and otherwise treated. In addition, 1600 acres were utilized by share croppers, thus benefiting wildlife and saving the Commission both expense and labor.



WE live in a country richly endowed with natural resources: fertile land, extensive and varied forests, an abundance of mineral wealth beneath the soil. All these things are gifts of nature, which our people have used to build a civilization unmatched in human history for its material productivity. From the products of our land, our forests, our mines and oil fields, we have raised great cities and spanned a continent with railroads and automobile highways. But without one key resource, water, none of these miracles of human achievement would have been possible.

This article was originally an address delivered by Mr. Leffler before the 1953 Pennsylvania Clean Streams Conference in Harrisburg in November. The Conference is sponsored annually by the Pennsylvania State Chamber of Commerce and 12 cooperating organizations, including the State Sanitary Water Board and the Pennsylvania Division, Izaak Walton League of America. Mr. Leffler needs almost no introduction to GAME NEWS *readers. Besides serving on the Game Commission a total of 27 years, including 16 years as president, he has been prominent in many other conservation activities. He organized the first chapter of the Izaak Walton League in this state.*

Until recent times, man has not attempted to control water, except in a limited measure for water supply and irrigation. He has for the most part been forced to adjust his ways to its vagaries as nature gave or withheld rain for his crops or overwhelmed him with raging floods. Prayer, magic, and propitiation marked his early gropings for control.

In the brief span of a century and a half, American farms and cities have spread over the land from the Appalachians to the Pacific. Great harbors have been built, navigable

streams maintained and improved; large cities have been supplied with adequate quantities of pure domestic water, their wastes carried away by more water; in the arid and semiarid West, deserts have been made to bloom; and large and small dams provide for flood control, hydroelectric power, and irrigation. All these things are the achievements of human ingenuity and enterprise—the work of many pioneering individuals and many men of technical skill.

On the debit side, man's activities in exploiting nature also have been destructive. We have used water badly, without proper respect for its natural cycle, turning it from a friend to an enemy. We have destroyed forests, leaving barren, denuded mountainsides from which rain water and melting snow pour unchecked; we have overplowed and overgrazed our lands; we have dangerously increased soil erosion, allowing precious topsoil to be carried to the sea; muddying our streams, filling up our reservoirs, and increasing the damage from floods. And we have polluted many of our streams and rivers.

These are serious wastes. If they continue unchecked, they will impoverish us and our children. And yet, one of the strengths of our free society is that we can recognize and correct our mistakes. Our society is dynamic and flexible. In all parts of the country—among engineers, conservationists, farmers, householders, and other ordinary citizens—there is a growing recognition that we must conserve and develop, as well as use, our natural resources. And in conservation and development, as in use, water is the key resource.

Now, midway in the twentieth century, two facts have become compellingly clear. The first is that water is limited in relation to the many and

IMPORTANCE OF GROUND COVER to check water run-off can be easily demonstrated. Water control inevitably leads back to proper conservation of forests and agricultural land.

SCS Photo





SCS Photo

CHEMICAL TESTS of fishing waters by technician absorb the interest of Boy Scouts at the Camp Schiff Reservation in New Jersey. From wading and swimming pools to rivers, lakes and streams, water areas have a special appeal to mankind.

varied needs for its use. These needs will grow in size and complexity as the population grows and as industry develops. More water for domestic use is needed by our growing towns and cities. More water must be used to bring new lands into production. And new industrial techniques bring with them increasing demands for water.

The second fact we can now see clearly is that the management, conservation, and proper use of our water are inextricably bound up with the management, conservation, and use of our land and that both are essential to our expansion as a nation. Water control inevitably leads us back to the proper conservation of forests and agricultural land.

If we do not manage and conserve water and keep our rivers unpolluted, we shall continue to suffer losses, some of them irreparable, in our other natural resources. If we do not manage and conserve these other resources, we shall lose the usefulness of our water: it will rush to the sea, robbing instead of enriching us.

This problem becomes even more vital year by year because our population will reach an estimated 190 million in about 25 years. Merely to maintain our present standards of living, therefore, we shall need to take care of our water and use it wisely to irrigate the fields, supply industry, and produce the power required to meet the needs of increasing numbers of people. The wise development and conservation of our key resource, water, is essential to further economic progress.

But in adidtion to their economic importance, water areas have a special appeal to man. From wading and swimming pools to rivers, lakes, or near beaches, they provide our day's pleasure—our recreation. To some they mean the chance to catch that

"whopper" or to bag the limit of waterfowl; to some, a refreshing swim or boat ride; to others, they suggest the competition of water sports; and still others find near water, the quiet relaxation and inspiration which high tempo city life frequently requires.

The value of a clean river includes in some part an ageless heritage of quiet and natural beauty, a priceless possession that we must pass on to succeeding generations uncorrupted or restored. We all know this feeling. In each of us there is an inborn urge to seek the edge of the water, even if only to walk along it, or to drive in a car where we can see it and be in some measure rested and renewed. Recreation of this kind has truly become an important activity for the American people. It is, in fact, an essential part of our way of life. Provision of expanding opportunities for physically and emotionally satisfying activities is an accepted social goal, and one which we all seek to attain.

Pollution abatement strikes at an important source of destroyed recreational values. Although a sewage treatment plant is not recognized as a recreation facility, its absence definitely limits the recreational possibilities downstream. Good land and watershed management are not considered recreation programs as such, yet they decrease the sediment content of rivers, enhance production of wildlife, and promote fish production and a wide variety of other downstream recreation.

From a practical point of view, hunting and fishing are conservatively estimated to be a three-billion-dollar business, and they are growing in popularity yearly. Consider the figures of the Fish and Wildlife Service—allowing for a large proportion of duplicate ownership of hunting and fishing licenses, about one out of seven of eight people in the United States likes to fish or hunt well enough to pay for it. Plainly, a pollution abatement program is essential to the future of our wildlife resources.

Slowly at first, but more rapidly now that the seriousness of the problem is clear, the American people are organizing to fight pollution. Much of the pioneering work has been done by state pollution control agencies, most of which are a part of or linked to the state health departments. Many of them have been active for years, carrying on programs of research, education and enforcement.

Pollution control, a big problem in itself, is also a part of the bigger problem—the best use of our water resources. And, in order to decide how much waste treatment is needed, we must know how the water in a given river or lake is to be used. Ideally, of course, we should be able to use water for dozens of different purposes and still keep it as sparkling and clear as it was before we used it. But we can "have our cake and eat it, too" only up to a certain point. We can't line the banks of a river with productive industries and reasonably expect the same stretch of water to be a fisherman's paradise.

What we must do, then is strike a balance. We must decide which of the many important uses of water is the most important for a certain part of a certain river. Then we must develop these uses first, being careful not to harm the water anymore than is absolutely necessary. By good planning we can make every river work for us in many ways.

It cannot be too strongly emphasized, though, that planing for pollution abatement must not mean rigidity; instead it calls for intelligent flexibility; not dictatorship and centralization, but cooperative and shared responsibility. The American system succeeds only as it encourages initiative, enterprise, and a sense of responsibility for the common good.



VALUE OF CLEAN STREAMS is best seen in the number of fishermen attracted to them. Recreation like this has become an essential part of the American way of life.

I would suggest that no "plan" can be acceptable which weakens or fails to use these qualities. The help of everyone—man, woman and child—is needed. As you well know, the bigness and importance of pollution abatement has touched people who ordinarily have little to do with the management of land and water. Sportsmen from the towns and cities have learned to create better hunting and fishing by helping to plant wildlife areas on farms and public land. Manufacturers have become aware of the value of keeping their wastes out of streams so that all may enjoy the blessings of good water. Cities are doing their part for conservation by building better sewage treatment plants. Communities are joining hands to get conservation treatment and pollution abatement for entire river valleys—effective programs where townsfolk, farmers, industrialists and ordinary citizens work together side by side to make their neighborhoods more beautiful and useful.

The high standard of living which we enjoy in America and of which we are so proud is mainly the result of the productive capacities of our many industries. And in order to produce, these industries need water—staggering quantities of it. Industries in the United States use 60 billion gallons of fresh water each day. In fact, the water used by industry weighs fifty times as much as all the other raw materials combined. And these figures do not include the stream flow that is used to create power.

It takes 365,000 gallons to produce a ton of rayon yarn; 510,000 gallons for 1,000 yards of woolen cloth; over one million gallons of water for a thousand barrels of aviation gasoline. The steel industry alone employs 13 billion gallons per day. Nor do these figures tell the whole story. The fast growing industries—like the synthetic and chemical industries—are those which make great demands on water, and experts predict that by 1975 our industries will need more than twice as much water as they are using today.

The solution, therefore, of our problem of pollution abatement involves the expenditures of years of continuous research and the capital

investment of billions of dollars, a cost which in the first instance must be borne by municipalities, industrial organizations and water treatment plants. The ultimate solution of the problem, though, must eventually be absorbed by the population as a whole. And one logical approach to such a problem would seem to involve a determination of what degree of stream purity the people of the country want and are willing to pay for. As long as we farm our land, depend on industry for our material well-being and improvement, and live in great urban areas, we will not be able to purify our rivers and streams to their former pristine state. But we can—and must—arrive at some practical and healthful compromise.

We all recognize that industry is a contributor to the pollution of streams and surface waters. The industrial contribution, in addition to the sanitary wastes produced in plants themselves, consists of a variety of substances, almost all of which, I believe I can say, should be included in a nuisance category rather than in a toxic classification. I say this because of the checks and balances provided by Mother Nature herself —the ability of a stream to purify itself, where pollution is not too extensive and sufficient time exists before the water is used again at another location downstream.

Currently, industry is conducting research programs aimed at improved pollution abatement, and similar programs are being conducted by many other organizations. From these various attempts, we should be able to develop a philosophy based on mutual understanding—a philosophy which will consider the ways and means by which pollution abatement can serve all groups without seriously impairing the interest of any individual group. Such a philosophy founded on mutual understanding would be invaluable in attaining a definite abatement objective.

Because industry occupies a vital position in our economy, it should be permitted, along with other groups, to make recommendations to the regulatory agencies on matters concerning policy and procedure for control measures. Together with all groups, industry should be consulted regarding the principles on which policy is based and the manner in which control measures will be determined and applied. And a rational and not an emotional attitude should be the foundation of any effective approach to pollution abatement. There is no reason why the public, American industry, and our regulatory agencies, possessing factual information and reasonable determinations of stream uses, cannot produce results in any pollution abatement program.

Industry is well aware of its responsibilities to others who use water from rivers or streams which industry also uses, and, in turn, recognition should be given to industrial water requirements. Practical pollution abatement can be achieved and yet with our expanding industries and our growing population, there are many mounting problems for study and intensified research.

We all admit that we shall never be able to restore a number of our waterways to their original state of beauty and cleanliness. But we can keep them useful and we can restore enough of their purity to make them an asset for richer living. This huge national problem is made up of local problems. And here lies our hope. Each of these local problems can be solved by the community or industry concerned. We shall be well on our way toward the solution of our national problem when the citizens of each community recognize that they are responsible for cleaning up the pollution they create.

. . . *The End*

Trees are Real Friends

By Bill Walsh

Illustrated by Guy Colt



THE true outdoorsman finds a world of interest in things other than fish and game on his many trips into the field and along the stream. Not the least among these is his friendship with a great many trees. For it's quite possible to feel sympathy toward these regal creatures of the forest.

Perhaps it is a hemlock beneath whose spreading arms you've waited with your rifle in the crook of your arm while the big buck, cautiously testing the wind at every step, finally maneuvered into the position that exposed his shoulder to the fatal sting of your bullet. You remember that tree and make a pilgrimage to its feet every December. You haven't made a kill there since the big buck—but it's a good stand, and a friendly tree. And it'll be standing there when your boy's as old as you are and he can wait for a buck in the same place.

Or maybe it's an old chestnut scrag—dead these many years since the pitiful blight. But its naked fingers reach far above the lesser trees that aspire to its height and it's served as a landmark when you've been over the third ridge from camp.

And one year you found a nest of Great Horned owls on one of the lower branches and the two fledglings you removed made great crow decoys for several summers of outstanding shooting. Sure, that's a tree you "know."

Or maybe it's a willow and you're friendlier with the roots than the rest of the tree, for it's deep in the labyrinthine recesses of the water-soaked roots that your fly has probed again and again for the strike of the big brown trout you know is there.

You've lost $20 worth of tackle to those roots so far, but you keep trying, for you had 'im on once and you'll never foregt the surge and the power that's packed in the broad spotted back he allowed you to glimpse before he turned and headed for his fortressed house and hung you up on a root sucker while he tore himself from the barb.

Maybe it's a white oak in whose arms rests the nest of a family of grey squirrels who annually supply you with a brace of fuzzy-tails for old fashioned squirrel stew. Or it's a beech into which your dogs once put a 'coon sky high and you had to

really "get out on a limb" to bring the chase to a logical conclusion.

Or it could be a grove of maples, scarred from the bleeding of the sap in order that the steaming stack of buckwheats that make the camp table groan in the morning can possess that smoky, woodsy flavor of the heavy syrup.

Yes, it's easy to be friendly with trees and the outdoorsman has an opportunity to get to know them—what kind they are, how they grow, how they perpetuate themselves, and of what value they are to wildlife and to man as a harvest when they are ready to be felled.

And this business of being friendly with trees amounts to a lot more than an intimacy with one special member of a group. The hunter and fisherman is also interested in all trees—because without trees on the hillsides of the watersheds, where the rivers begin as trickles on the forest floor, there will be no water table, no topsoil, and no hunting or fishing in the valleys below.





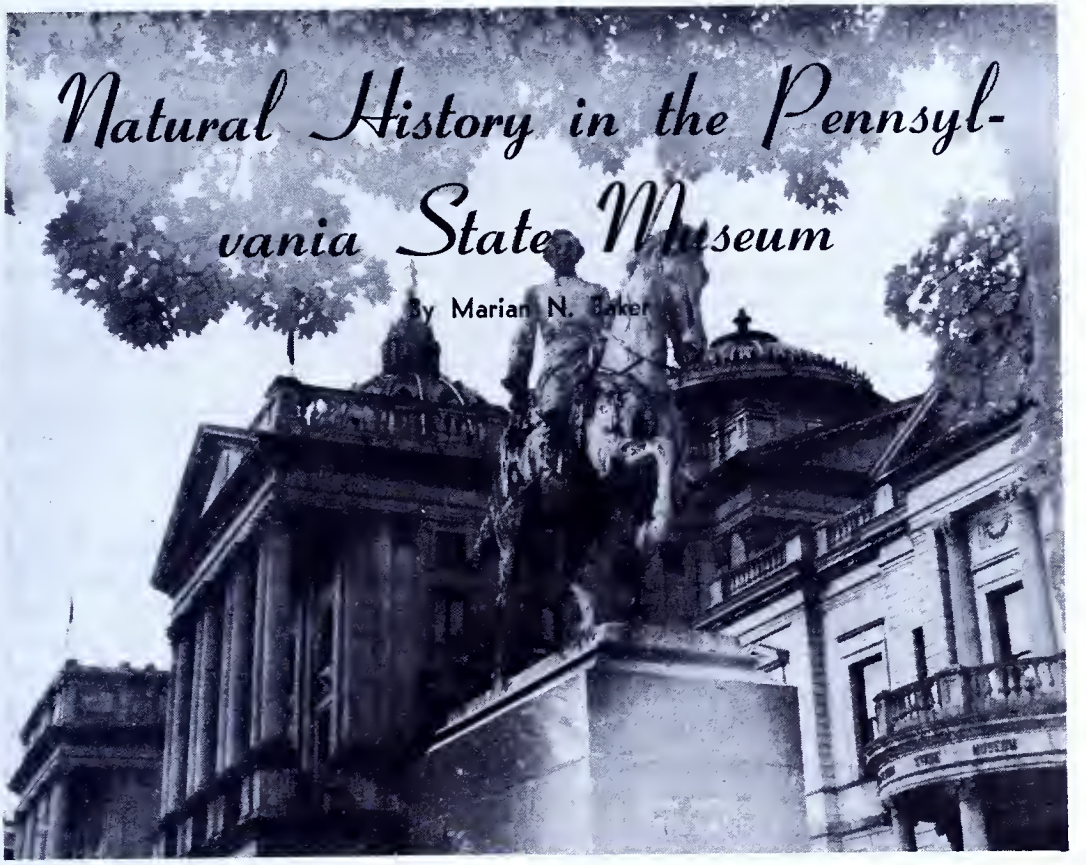
Perhaps we can take a better look at our own watersheds and come up with a solution to make for a better stream run-off in our own neck of the woods. Hollaring about the rest of the country doesn't do any good until we've improved our immediate locale.

As we said at the beginning, not the least of an outdoorsman's interests is his friendship with a great many trees.

—Reprinted from the Erie Times.

Natural History in the Pennsylvania State Museum

By Marian N. Baker



Pa. Dept. of Commerce Photo

THE Pennsylvania State Museum was created by an act of legislature in 1905. According to that act, its purpose was the "preservation of objects illustrating the flora and fauna of the state and its mineralogy, geology, archeology, art and history."

The Museum today, fifty years after its establishment, using modern techniques of presentation, has increased its scope and reorganized its exhibit halls. Each exhibit is so planned and arranged that it tells a story in itself.

Here thousands of school children from all parts of Pennsylvania and neighboring states come each year on their annual visit to Capitol Hill. Other school and scout groups from local communities make several visits during the year using the Museum as an extension of their class-rooms in such subjects as Pennsylvania history, Pennsylvania Indians, Pennsylvania handcrafts and natural history.

In an effort to meet the needs of these visiting groups a room has been set up in the Museum where children may listen to talks and handle objects related to their special interests before visiting the museum exhibits.

Since nature study is one of the subjects most often requested in connection with the natural history exhibits, special attention has been given to developing a natural history program which will help the children to understand, appreciate and enjoy Pennsylvania's natural heritage.

In this room four scenes have been painted in tempera colors on composition board illustrating the four seasons. Each picture occupies an entire section of the wall and serves as a background for nature talks. In preparing these landscapes we purposely omitted the animals since cut-outs and mounted animals and objects are superimposed on the back-

ground when needed. Most of the scenes represent specific locations and cover a wide range of habitats—woods, swamp, meadow and field.

The winter scene shows the outlines of trees in winter when the characteristic shapes can best be seen. Actual twigs are mounted on each tree to show the nature of the winter buds and leaf scars. The twigs are so arranged that they contribute to the general outline of the tree and give a three-dimensional effect to the scene. Arranged along the border of the mountains are the terminal buds of trees that grow in these locations.

Using the scene as a background the children notice the difference between the evergreen and the deciduous trees and such trees as the pin oak which keeps most of its dried brown leaves through the winter until they are at last scattered by the March winds. They see that trees have characteristic shapes—the fan shaped outline of the elm along the city streets, the oval of the young sugar maple, the gnarled and leaning apple trees in the orchard. They observe that each kind of tree has different shaped buds just as in summer they had different shaped leaves. The fat buds of the shagbark-hickory, the long pointed buds of the beech, and the duck bills of the tuliptree, offer startling contrasts. The children are amazed to know that these tight buds contain next year's flowers, leaves and twigs. Under each bud is a leaf scar where last year's leaf was attached. These leaf scars are different for each tree and are arranged in special ways. This and much more can be taught from a handful of twigs. In helping the children to understand the buds and leaf scars I have found that a branch from the young growth of the Tree-of-Heaven (*Ailanthus altissima*) makes an excellent demonstration specimen. The leaf scars are large, the buds are prominent and the leaf arrangement can be seen at a glance. At Christmas time we add a new tree—a Christmas tree fashioned from a sprig of fir and decorated with miniature ornaments. This is a good season to learn to identify Chritmas greens.

The winter birds present another interesting chapter. Where do they live during the long cold winter? What do they find to eat? What are their enemies? How can we help protect them?

What are the insects doing when the landscape looks like this? Cocoons, insect eggs and hibernating insects tell the story.

Then there are the mammals with their varied and interesting methods of solving the problem of winter. Some of their adventures are written in the snow for the nature detective to read when he goes afield. We have shown many of these tracks with cut-outs of animals at the end of the trail.

The spring scene is May in your own back yard. Early spring flowers of the old-fashioned type are blooming along the fence. Some of these are pressed and mounted, others are painted. A bird bath carved from wood, so that birds may be placed in it, occupies a central position in the yard. The wooden gate swings on tiny hinges and the mail box is built to receive small notes welcoming the younger groups to the Museum.

Here we show the opening buds. Twigs placed in water at this season can be forced and children can observe the opening buds of any tree or bush.

The summer visitors among the birds arrive. The bird population increases from week to week and we place them on the scene as they appear—song sparrow, robin, bluebird, mourning dove. This is the season when the song is most pronounced. With the use of American Bird Songs (recordings) we hear the birds singing in the garden. From a collection of bird nests we place real nests in

locations where children have seen birds building near their homes. The catbird might build in the lilac bush or the robin above the doorway. Where do they get the materials for their nests?

The summer scene is hot July on the farm. The wheat has been harvested and wheat shocks topped with real wheat head dot the field. The overgrown fence row offers a refuge for small animals and the meadow is ablaze with the sturdy summer flowers. Some of the pressed flowers lost their bright colors after being exposed to the light. These were retouched with tempera. This background provides an opportunity to discuss the predators and their relation to the farmer. The visitors and residents of the barn itself make an interesting story. No summer is complete without the hum and drone of insects. And where can you find more numerous and varied specimens than along a dusty river road in the middle of July?

The woodland scene with its larger figures is the most colorful of all. The drift of leaves in the foreground has representatives of the trees of this particular forest type. All of these leaves were pressed before they were placed on the wall. This helps to preserve the natural color for a longer time. Mosses, lichens, mushrooms, clubmosses and evergreen ferns are in the immediate foreground. The mushrooms, lichens and mosses were dried and the other plants treated like the leaves. Sumac and dogwood grace the knoll at the right, Virginia and grape vines twine over the yellow birch and beech at the extreme left. The yellow curls of the birch bark and the fungus on the stump are interesting details. Teaberries, groundberries and nuts supply food for the woods dwellers.

The spray of dogwood was pressed

BRINGING THE OUTDOORS INDOORS is the aim of the Museum's natural history program. Thousands of school children have seen and learned from the scenic murals like the one below.

PGC Photo by Cady





PGC Photo by Cady

FINISHING TOUCHES are made on the summer scene by Mrs. Martha Colt of the Museum staff.

and the leaves further secured to the stem with a drop of ambroid cement. The branches of beech and tulip arching the scene were prepared in the same way. These larger branches required a little more attention. Before pressing the thick stems were pared away from the back and the heavy ends were allowed to protrude from the press.

The flower press can be made from two pieces of plywood approximately 12 x 12 inches, newspapers, corrugated cardboard and a good substantial rock. Fold the newspapers so that they are the size of the plywood pieces, cut the corrugated cardboard to the same dimensions.

Arrange each specimen between the folds of one newspaper just as you want it to look when it is finished, being careful not to have its parts overlapping. Place the papers containing the specimens one on top of the other with a piece of the corrugated cardboard between each newspaper. The corrugated cardboards are the spacers and allow air to enter and hasten the drying process. The newspapers absorb the moisture from the plants. With some very fleshy plants it is necessary to change the newspapers several times but with most small plants and especially leaves this is not necessary. Finally put the whole thing between the two pieces of plywood, like a sandwich, place the weight on the top and keep in a warm dry location for a week. If you have large blotters, these may be substituted for newpapers.

Schools and other groups planning to visit the Museum should make appointments at least two weeks in advance with Mrs. Marian N. Baker, Museum Assistant, Pennsylvania State Museum, Harrisburg, Pennsylvania, or call Harrisburg 8-5151, Ext. 3325. All tours and classroom talks are free of charge and no tips are accepted. Groups visiting the Museum range in ages from kindergarten to teacher study groups.

The wall scenes which could really be called murals were painted by Mrs. Martha Colt of the Museum staff.

Outdoor Reveries

Silent Thunder

By John H. Day

Illustrated by Ned Smith



THE sun refused to believe that it was April and turned in a sweltering performance. It put me down against the warm bole of a gnarled old apple tree before I had puffed a mile and a half through the thickets. Somewhere I had picked up the virus and when I exposed myself to that wondrous sunlight spring fever laid me low. There I was, far from the beaten path, unable to do a thing but loaf gloriously on that enchanted hillside, while feathered choristers entertained from choir lofts all around, and an occasional tiny breeze stole by to fan my fevered brow.

From somewhere close by came a drowsy humming and I languidly opened one eye to watch a golden throng of honeybees work over an early blooming cherry tree. These were wild bees, with a snug home back in the woodland. I think I know their home address. While I was lazily noting the much too busy bees, a great butterfly swept over, one of the gorgeous Mourning Cloaks, who fly abroad on sunny April days.

Flickers yarruped on the hills all about. These big anteaters must certainly be on April's payroll as advance agents. Their "wick wick" wicking came as old familiar music to my ears. They take a stance on some favorite snag, yelp for all they're worth, then look off to the south to see if the new April is coming along on schedule.

This is the month when the tiny birds show up. As I lay there, fever-ridden, wrestling with an acute attack of pure laziness, a wave of golden crowned kinglets moved through the trees, stoking up on insect fare before their next hop toward their summer home in the evergreens farther north. Tiny, courageous birds are the kinglets, wearing their titles and their crowns modestly.

I can always count on the little blue-gray gnatcatcher during the first week of the Grass Month. A pair of these long-tailed fellows explored

every nook and cranny in the tree above me, working "both sides of the street" as thoroughly as any skid-row scavenger. They don't get much farther north than my hiking bailiwick, but hereabouts they are one of the many joys of the spring countryside.

I pulled my cap over my eyes and was drifting off to a delicious snooze when a ruckus of some sort broke out in the crow headquarters back against the woodland. Again I pried open a slothful eye to observe five ebon gallants fleeing across the sky, with some of the home town boys in hot and profane pursuit. Probably some black wolves on the prowl.

The snow trillium has come and gone, and now the hepatica and spring beauty and three-slashed toothwort brighten the wayside trails. Red maple glows in the timberland. The heartbeat of the soil is quicker in early April. This is the zero hour, when wildling plants strain at their roots and budding blossoms tremble, eager to unfold. There is a silent thunder in the earth, strange detonation that tells each blade of grass, each April daffodil, when its predestined moment has arrived.



Now is the time for the annual dosage of sulphur and molasses, and the hot tangy sassafras tea to clear the blood and undo the mischief worked by the winter. When I was a lad my mother used to mix up the sulphurous mess and I had to take it from a huge tablespoon. It really wasn't too bad and I'd give a lot to be licking off that spoon once again and feeling as good as in those halcyon days.

The man who has never tasted sassafras tea, brewed from young root pieces rich with the new sap, just hasn't lived. Sassafras tea is surely one of God's greatest gifts to countrymen. April and this delightful brew go hand in hand. It will cure anything, even a bad disposition.

"All those who say 'Alackaday!'
and scorn this foolish notion.
Would surely smile, and find worthwhile the world's most heavenly potion.
For Communists and other sects like Bolshevik and Fascist,
Don't mean a thing in days of spring, if one's a sassafrascist!"

When the trout streams are lyrical with full-throated April mood music, and the exuberant toads trill in every upland marsh, then the outdoorsman finds the high country a place of true enchantment. The tangy aroma of the hemlocks fills his nostrils and sets him to daydreaming while he should be giving full attention to the minnow spinning down through the pocket beneath the roots at the water beech. There's a time for angling and a time for daydreaming in the true countryman's daybook.

He moves away from the roar of the stream so he can hear and feel the surging springtide in the lonely woodlands. One lone shadbush wears her bridal veil demurely by the trailside. All the underwoods are aglow with spice bush bloom. A tremendous ant hill calls for inspection, and a

probing toe brings hundreds of the red warriors on the double, seeking trouble.

Now is the time the tasty morel puts in its appearance on certain favored mountain slopes. The trout can wait while the countryman pokes around the decaying remains of a windfallen tree, discovering a half dozen of the hollow-capped mushrooms which are an epicure's delight.

There seems to be an affinity between the morel and the flat mountain rocks called "blue stones." Usually the morel will be found pushing its way around the edge of one of these loose stones, or actually pushing the stone aside. The countryman takes with a grain of salt the mountaineer's claim that during a good morel season these stones can be heard tumbling over all across the hills.

From the far mountainside comes the rolling tattoo of a woodpecker, drumming out his lovesick message for all the world to hear. A kingfisher goes over high above the trees, rattling his displeasure with the army of anglers who have disturbed his hunting grounds. Bluejays scold nearby. A hunting hawk comes to rest in a tree top and screams defiantly before coursing on down the valley.

The Louisiana water thrush also loves the mountain streams. His rather loud music is part of trouting in the high country. Now and then he darts across before the angler, acting like an oversize winter wren. Then he'll disappear and soon his song will come ringing through the trees. He opens his vocal offering with a series of three notes which are quite characteristic.

The countyman crosses a fire lane and hears the hurried hooting of a barred owl from the depths of a swamp close by. Usually the brown-



eyed fellow is silent in the daytime, but the overcast spells out rain, and the "eight-hooter" always has something to say about approaching wet weather.

There's even a sort of enchantment to sleeping in the hemlock woods. Especially when the rest of the gang goes home and leaves the countryman alone to enjoy the peace and quiet and full darkness of the midnight timberlands. There's no sleep quite so restful as that dead-to-the-world slumber which overtakes the tired angler after a long day astream. With no headlines or newscasters to disturb him, he falls sound asleep by the pot bellied stove and by 9 P.M. is tucked in for the night.

Mountain water, cold and clear, fresh from the spring on the hillside, rolls down the countryman's chlorine-jaded gullet like so much nectar. Even the coffee tastes better. And mountain trout, cooked over mountain wood chunks, and seasoned with a handful of mountain morels—these lend an enchantment even to the prosaic matter of eating that cannot be described, but must be tasted.

Wildlife's Real Enemy

By Thomas Eberhard



"THEM egg-eatin' devils! I know that's why there are no pheasants," Bill was screaming. "Not only the skunks but the crows as well. And then the foxes grab the chicks as soon as they're off the nest. By George, something's got to be done!"

Bill, like most other hunters, realizes that the hunting of today isn't quite what it was when he was a youth. He has seen predatory animals remain abundant or increase while quail and other game has decreased. Naturally he knows there are more hunters, but with wildlife conservation becoming increasingly active, he has trouble understanding the puzzle of more predators and less game. Bill reasons that something is eating our game animals, for anyone can observe the horde of cats, dogs, foxes, skunks, and hawks that are always on the prowl. These creatures appear quite capable of devouring every pheasant chick and cottontail in the field. The vividness of this preying phenomenon has convinced Bill and others that carnivores are the main cause for diminishing numbers of game.

While the four-footed and avian predators have been bearing the brunt of blame for declines and shortages, one serious "predator" has escaped notice and is probably the deadliest of all. This one has no teeth, talons, or body; yet it kills noislessly and completely, and although it exists within view of all outdoorsmen its predations continue unobserved. The victims of this killer include all kinds of game and even some predatory animals. It is insidious. Not only has Pennsylvania been plagued by it, but nearly all other states have had and still have their share.

A rifle slug or a shotgun blast can't touch the culprit; traps and poison are equally ineffective, as this phantom is totally immune to such simple devices.

One might well ask, "What the devil is this thing with no teeth or claws, and yet more destructive than all the predators?" A brief answer is the change in vegetative habitat. Admittedly, this is harder to visualize than a cat eating a cottontail or a crow breaking eggs, but that's the one reason it has been so destructive: it has grown and laid waste without

being suspected. No one would expect to find bobwhite quail in the pure sand areas of the Sahara Desert but most people don't realize that most of the farm lands of today are just as uninhabitable for quail. The wrong kind of vegetation is just as barren as none. It is true that our farms are more productive than ever, but they do not provide the essential plants for quail. In our timberlands the change from brush to the present pole forest has been equally harmful to deer and grouse.

On most modern farms, the fencerows and brushy corners are gone, and there is alfalfa instead of timothy, which has affected pheasant nesting tremendously. Weeds have been eliminated, and in their place, immediately next to roads, lanes, and fences, crops have been sown. There is hardly a place for game to hide, much less live, in this new habitat. The increase in grassland farming with its one wire fences offers a scant environment to most wildlife. Coupled with fast moving farm machinery, this change in vegetation has been so devastating that the lowly carnivores have little game to harrass, and receive only the blame for the scarcity.

To most people, our forests look the same today as they did thirty years ago, but the woods are actually quite different. The brush has changed into trees, which has made the forest floor void of any deer food or grouse cover. The tremendous quantity of browse literally rose into the air. The present pole stand that is characteristic of most of Pennsylvania's forests has been far more destructive to deer than any cougar ever was. Without food, the deer can't even run; he is snuffed out without a sound. The phantom in the timber has taken a heavy toll.

The casual observer has hardly noticed these important plant changes, mostly because many kinds of plants look alike, and the transformations have occurred slowly. The vital differences between grasses and weeds, grasses and brush, and sprouts and poles have developed so subtly and unspectacularly that, even when they were noticed, they were discarded as bunk. Vegetation constitutes the home for all upland and big game; it is the most essential factor in their being. A farmer never attempts to raise chickens by killing hawks alone; he first must provide housing and food, and then keep a watchful eye for secondary enemies. The same requirements exist for all game animals. It is of little use to concentrate on the predators without first furnishing game with its primary requisite, the proper vegetative environment.

In addition to changes in vegetation on farms and woodlands, a similar thief of wildlife habitat has been at work, namely, urban development on farm lands. In lower Bucks County, for example, an extensive farming community changed into a maze of towns and housing projects in less than three years. As game habitat, this fine land is completely lost. There are many other sections where cities and towns are spreading out, and farm land is furnishing the mat for this growth. Although disheartening to hunters and outdoormen, this factor is inevitable, and is indicative of good community growth and development. Croplands, as well as wildlife habitat, are obliged to yield to the demands of an increasing population.

The problem of providing the essential habitat for our game is exceedingly difficult. Our farmers furnish our food, and they are not to be condemned because they boost production by utilizing all of their land. They are business men, and although many of them like to hunt a livelihood is their first consideration. One feasible solution, in times of surplus crops, would be to encourage wildlife



NEW METHOD of dividing fields is graphically shown above. It allows high cash-crop production by utilizing every foot of land.

habitat development through the use of subsidies. There is certainly no surplus of game, and as the number of hunters continues to mount an increase in the wildlife crop would be well utilized. Farmers hold the key to much of our upland game populations; the task of redevelopment of cover on farm lands may be achieved only through cooperation and consideration of the farmer's problems from all outdoor groups.

Our timberlands are also besieged by economic difficulties. The continuous pole stands should be cut moderately, at least, in order to provide openings that are vital to brushy vegetation. Since pulpwood is a limited and the only principle market for smaller trees, the prospects for

TOTAL LACK OF GAME FOOD OR COVER is easily seen along this unprotected ditch. Even a meadow mouse would have trouble living here.





OLD STYLE division between fields allowed game cover but slightly less land for crops. The brush strip made excellent travel lane for wildlife.

extensive harvesting of pole stands are dim. Cutting for larger products, such as sawlogs, will not occur for several decades, as it will take that length of time to produce mature timber. Wholesale leveling of our forests is extremely undesirable, not only for timber production, but for wildlife as well, because thirty years after logging operations, the deer herd would be precisely where it is today: in the bread line.

The ideal condition for our forests would be a variety of stands, consisting of older timber, intermediate stands, young growth, and small brushy openings. This woodland habitat would provide the best attainable for all forest game animals. In the absence of markets for timber

SAME STREAM just one-quarter mile away. In addition to protecting stream banks, the variety of brush, weeds and sprouts offers a much needed "Home" for wildlife.



products, subsidies again offer a possible aid. Subsidies in this sense infer not only governmental, but aid from sportsman's groups as well; their dollars and labor could go a long way in developing openings and varieties of vegetation on their favorite or leased hunting grounds. This action may seem indirect and doubtful, but on the contrary the results are immediate, decisive, and highly productive. It is the most fundamental technique in assisting game.

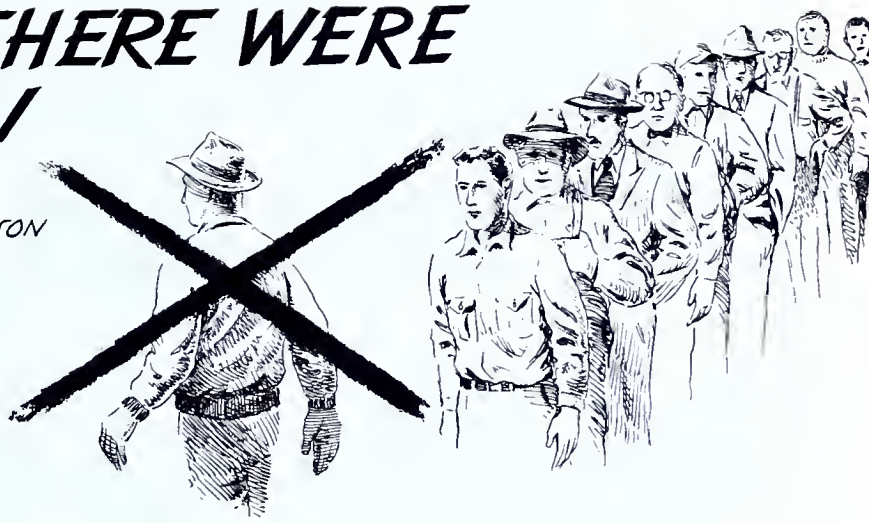
Waterfowl, as well as other important resources, have benefited from the farm pond program of the Soil Conservation Service. The kind of habitat essential to waterfowl is generally known by most people, and has received wide recognition. Ponds, streams, and lakes with the proper aquatic plant associations provide homes for ducks and geese. Continued support of pond development and discouragement of the draining of submarginal marshlands promise a brighter future for waterfowl. In addition, full cooperation between sportsmen and landowners will aid in producing more aquatic habitats for all kinds of water birds.

The lack of proper plant enviroment has been overlooked by the majority of sportsmen for too long. The present day vegetation is simpl a result of new trends in land management, and has seriously impaired wildlife populations. Even though game administrators have been aware of this difficulty, they have been restricted in progress because the use of land has been dependent solely upon immediate economic returns. If game is to receive this basic need, the program of action must consist of hard work, cooperation, and, most important of all, the establishment of the economic importance of wildlife. It will require the services of all people, namely, farmers, landowners, sportsmen, outdoorsmen, and public conservation officials; the responsibility does not rest with the game department alone. Regrettably, until the proper vegetative habitat is restored, the phantom will continue to be wildlife's most serious enemy.



THEN THERE WERE NINE!

BY GEORGE M. DODSON



ACTUALLY, Jimmy Gleanert was a good sport and a fine sportsman. Sure enough, he liked to brag a little. But everyone has faults, and Jimmy's friends found his rather amusing. They all laughed when he "stretched the truth" and then they thought no more of it.

However, this particular instance was different. Enthusiastic about his new job, Jimmy made an effort to impress the small group that lingered for some friendly talk after working hours. As soon as he had a chance to add to the conversation, he talked about hunting. Almost before he realized what had happened, he had hinted at over-limit bags, outsmarting a game warden in a minor matter, and personal criticism of some game laws almost everyone else approved.

Nine of his new friends glanced at each other and smiled. But the tenth fellow went home thinking, "So these hunters talk about conservation and then try to wreck the program themselves! Well, they can get along without my support in the future." You may say nine out of ten citizens for conservation is a good percentage, but ten would have been far better.

In another part of the country, Zane Wesson faced a problem which, at first glance, seems entirely unrelated to the situation outlined above. In brief, Zane had been urgently requested to discuss conservation at a teenage boys club. Experienced as a speaker and with a firm grasp of the subject, Zane might have convinced those boys that they had an important part in preserving excellent hunting in Pennsylvania.

But Zane was a man with many interests. It seemed impractical to take time for this project. Later, when he learned only ten boys had attended the meeting, he felt relieved that he had passed up what the club leader described as an opportunity. Unfortunately, Zane never knew the score of the meeting he missed. Nine of the boys found out about conservation from other sources: the tenth lost interest in the matter, and later in life often used his influence and vote to "save" money by eliminating measures aimed at improving Pennsylvania's streams and forests and wildlife.

Then there was Cal Alstet, editorial writer for one of the small but prosperous newspapers that serve rural and less densely populated sections of Pennsylvania. He sat at his typewriter from which he had already turned out most of his "copy" for the next edition. Just space for one medium sized editorial, he thought.

Now Cal believed with all his heart in the cause of conservation. The

idea occurred to him that he might use the available space to urge constructive action at the local level. But conservation is seldom capable of being handled in a spectacular manner: It takes a lot of hard work to write something other people will find interesting.

"Besides the extra effort," Cal told himself, "I imagine nine out of ten of our readers already know at least the principles of conservation. Maybe if I look around a bit I can discover some topic that will be easier to handle and more likely to attract attention." Undoubtedly, Cal had a point there. But the sad truth remained that the one reader out of ten who knew almost nothing about conservation, seldom read anything more than his local newspaper. Without finding fault with Cal, he passed up a wonderful chance to convince the other 10% of the population that their help was needed too if Pennsylvania is to maintain and improve its standing from the angle of intelligent conservation.

For all we know, there may be no Jimmy and Zane and Cal in these particular positions in true life. However, whatever their names and their jobs, once in a while they have an opportunity to talk about conservation when and where it will be most effective. For in this urgent task, nine out of ten on our side still leaves something to be desired. Only 100% is enough!



NEW OFFICERS of John Harris Chapter, Izaak Walton League of America, shown following annual elections in Harrisburg last February. Left to right, seated: Secretary Frank Keister, vice-president John Bistline, President Herbert A. Beltz, Jr., past president Harry L. Miller, and treasurer J. C. Umbenhauer. Back row, standing: Directors Ray E. Steward, Lloyd L. Keim, Wade M. Bennett, past president E. M. Wagner, director G. E. Gladfelter, and party chairman Carlos F. Bodwell.

A Sportman's Guide to . . .

Mifflin County

Forty-eighth in a Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Mifflin County covers 275,776 acres of which 174,963 acres are forested. Publicly owned land totals 56,759 acres, including 2,324 acres in State Game Lands.

Transportation

Railroad transportation is furnished by the Pennsylvania Railroad. The William Penn Highway (U. S. 22), the 28th Division Highway (U. S. 322) and other important routes traverse the county which has 264 miles of improved State highways.

Topography

This county is in the center of the Appalachian ridge and valley province, with its axis tilted from northeast to southwest to conform to the direction of the mountain ridges. Geographically, the county lies immediately below the center of the State.

District Game Protectors

District Game Protector George B. Smith, 625 W. 4th Street, Lewistown (Phone: 2790), is assigned to the following townships: Armagh, Brown, Decatur, Derry, Granville.

District Game Protector Elmer L. Alexander, Belleville (Phone: 17), is assigned to the following townships: Bratt, Menno, Oliver, Union, and Wayne.

Fish Warden

Fish Warden Richard Owens, 21 E. Shirley Street, Mt. Union, is assigned to Mifflin County by the Pennsylvania Fish Commission.

Agriculture

The county is rich agriculturally and the soil in some parts is unexcelled. Fine crops of corn, wheat, oats, apples, peaches and pears are produced.

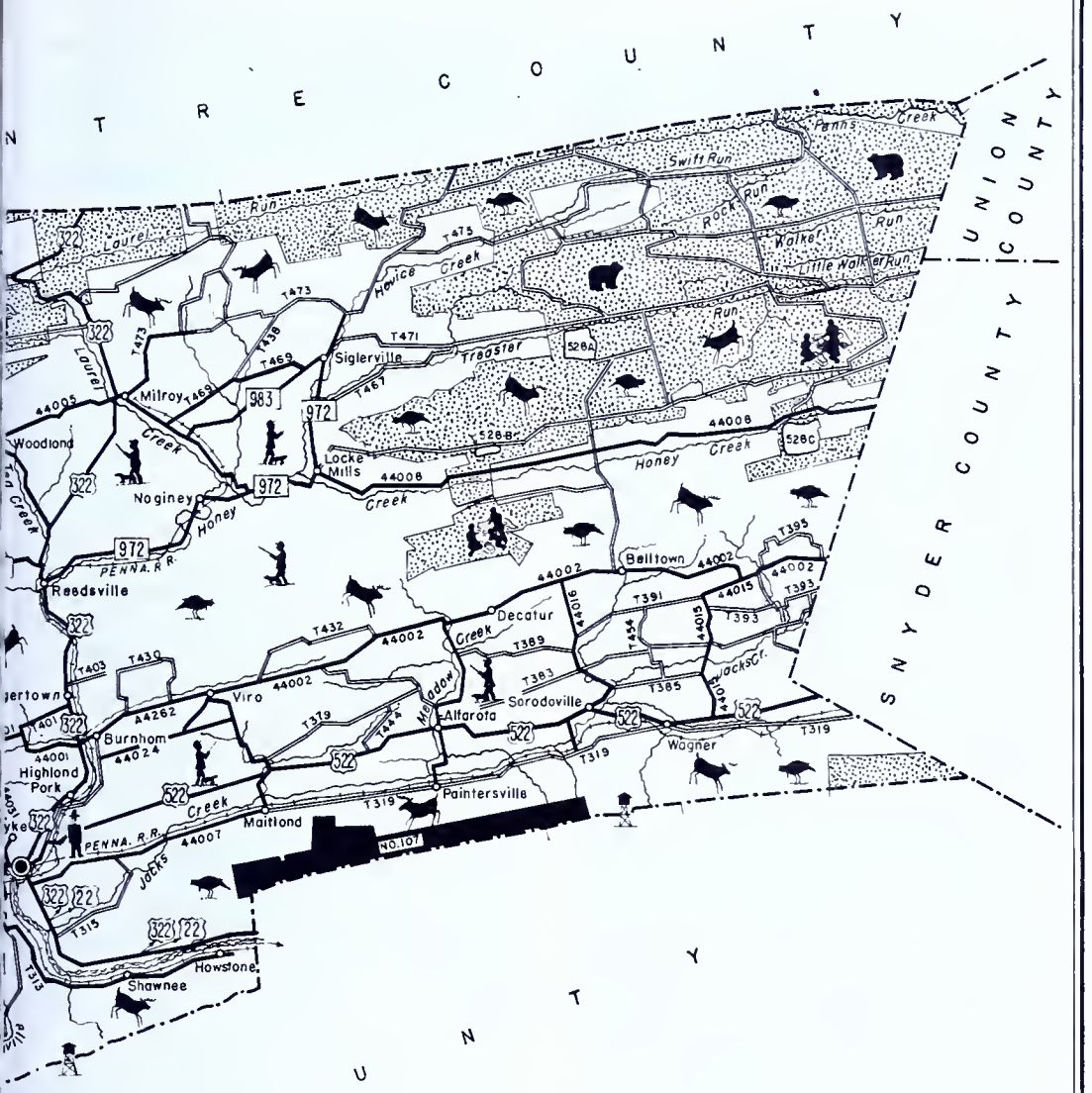
Industry

Mifflin County's growth in recent years is due largely to the establishment at Lewistown of one of the largest rayon plants in the world, a subsidiary of the American Viscose Corporation. Mineral resources include limestone, which is quarried for crushed stone and flux, ganister used for making fire brick, glass sand, and silica sand for steel molding and mortar. The largest limestone quarry, at Naginey, is about 2,300 feet long and has a working face 80 feet high. Principal classes of manufacturing industry are textiles and textile products, metals and metal products. Chief products are rayon yarns, railroad supplies, iron and steel forgings, steel castings, ganister brick, glass sand, bread and other bakery products, grist mill products, and miscellaneous stone.

History

Mifflin County was organized in 1789 and named in honor of Pennsylvania's first Governor and Revolutionary War hero, General Thomas Mifflin. Its origins, however, date back to as early as 1731 when the


...KEY...
– County Seat.
– State Forest Fire Observation Tower.
– Game Protectar's Headquarter's.
– Bear Hunting.
– Deer Hunting.
– Wild Turkey Hunting.
– Small Game Hunting. Grouse, Pheasant, Rabbit & Squirrel.
– Railroad
– Stream.
– State Forest Land.
– State Game Land.
516A – State Game Refuge on State Forest.
– State Park or Picnic Area.
76 – Pennsylvania Route Number
22 – U. S. Highway Route Number.
44001 – Legislative Route Number
– Township Route.(T319)
Rockville
Belleville
Union Mills
Kishacoquillas
Little Kishacoquillas
Allenville
Strodes Mills
Lockport
McVeytown
Mattawana
Pine Glen
Atkinson Mills
Lucy Furnace
Vineyard
Beaverdam
Ryde
Newton Hamilton
Kistler
Juniata River
Pennsylvania
Juniata County



PENNSYLVANIA
GAME COMMISSION

MIFFLIN COUNTY
PENNSYLVANIA

0 1 2
Scale in miles



L.A.M.'55

first English traders visited the region. The county had within its limits, on the site of modern Lewistown, the Shawnee Indian Village of Ohesson—ruled by Chief Kishacoquillas. The famed Mingo Chief Logan lived near Reedsville from 1766 to 1771. The first settler within the county was a trader, Arthur Buchanan, who settled at the site of Lewistown in 1754.

The fertile valleys of the Juniata river and the Kishacoquillas creek plus the presence of Fort Granville, erected by George Groghan in 1755 a few mile west of Lewistown, soon attracted hardy Scotch-Irish pioneers. Destruction of the Fort by a roving band of French and Indians in 1755 left this part of the frontier exposed and further growth in population did not follow until after the Revolution.

Lewistown and Mifflin county were always an important highway center. In Indian days, trails crossed within the county from several directions. The Juniata Path joined the Tuscarora Path at Port Royal and followed the river to meet the Kittanning Path at Mount Union. The Warriors Path from Sunbury also passed through the county. These early Indian trails are today roughly the respective routes followed by the William Penn Highway and Routes 322 and 522. The Pennsylvania Canal also passed through the county, Lewistown being a principal shipping point. Many ruins of the old canal can be seen, especially alongside the William Penn Highway in the Narrows south of Lewistown. Jacks Creek Arch Bridge, of early turnpike days and still located just south of Lewistown, is probably the only existing example of a stone arch bridge built without the usual keystone.

Mifflin county has furnished men for all the wars in which America has engaged, beginning with the Revolution. Captain Milliken's Troop of Horse was in the War of 1812. Daniel Dobbins, one of the builders of Admiral Perry's fleet which won control of the Great Lakes, was a native of this county. The Juniata Guards served in the Mexican War and the Logan Guards were among the first defenders to reach Washington for the protection of President Lincoln during the Civil War.

Large numbers of Amish settled in the Kishacoquillas Valley and in Big Valley, giving the county a very substantial agricultural population living under distinctive social and cultural conditions.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Brookland Run, McVeytown, Rt. 22, 3 mi.; Havice Creek, Seiglerville, Rt. 983, 4 mi.; Honey Creek Milroy, Rt. 322, 4 mi.; Kishacoquillas Creek, Milroy, 4 mi.; West Branch, Kishacoqillas Creek, Reedsville, Rt. 322, 14 mi.; Laurel Run, Milroy, 5 mi.; Licking Creek, Mifflintown, Rt. 322, 4 mi.; West Licking Creek, Mt. Union, Rt. 22, 2 mi.; Lingle Run, Milroy, 3 mi.; Long Meadow Run, Alfarata, Rt. 522, 4 mi.; Musser Run, McVeytown, 3 mi.; New Lancaster Creek, Lockes Mills, Rt. 972, 9 mi.; Penns Creek, Milroy, 3 mi.; Strodes Run, Strodes Mill, Rt. 522, 3 mi.; Tea Creek, Reedsville, 1 mi.; Treaster Valley Run, Lockes Mills, 5 mi.

BLACK BASS: Juniata River, Newton Hamilton, Rt. 103, 24 miles.

Recreation—Hunting

Mifflin County is primarily a big game county although fair to good hunting for grouse, woodcock, squirrels, and other small game can be found. State Game Lands, open to public hunting, are found as follows: Number 107 (in part) near Paintersville, covering 1,790 acres; and Number 113, near Strodes Mills, covering 534 acres.



Daniel Boone Is Back

DELAWARE COUNTY—Recently when picking up hunting license applications from issuing agents, I stopped at a small sporting goods store in Havertown. This was the first year that this store had handled hunting licenses and as usually happens they made a few mistakes. I was going through their applications when I noticed one that didn't look right to me. I turned to the clerk in the store and asked if they always ask for identification before issuing a license. I was assured they did and then showed the clerk the application I was in doubt about. She looked it over and replied. "That's all right, I know that boy personally." The name which appeared on the application was "Daniel Boone."—District Game Protector Daniel McPeek, Jr., Glen Mills.



Hawk Hunts Man

VENANGO COUNTY—The District Food and Cover Farm-Game Manager reported this encounter with a hawk. While dismantling safety zone signs on project No. 137, he observed a hawk working on something on the ground. When he approached the area, the hawk flew up into a nearby tree. He noted the hawk was a female goshawk. On the ground was a freshly killed female pheasant. As this man bent over to examine the kill, he noticed a shadow approach him. As he turned his head he saw the hawk diving straight at him. He ducked and went head first into the snow to keep from being hit. He does not know if the hawk was trying to drive him off or retrieve his freshly killed dinner. The hawk only flew a short distance into a tree and watched him. He shot at it with his revolver but missed. The hawk then flew away. When checking over the area two more dead hen pheasants were found.—District Game Protector Clyde W. Decker, Franklin.

Any Pond In A Storm

WARREN COUNTY—On State Game Lands No. 86, I have a small pond which is about 20 feet wide and 30 feet long. During the last three weeks in December, this pond has been inhabited by 60 black ducks. The pond is fed by a spring and does not freeze over until the weather gets down to zero. In this period I fed them 20 bushels of shelled corn and 12 bushels of wheat. Every time I took food to them, I found that all food from previous feedings had been consumed.—District Game Protector George H. Burdick, Tidioute.

Rabbit Haven

LUZERNE COUNTY—During the month of January I had a deputy trap a ten-acre refuge for rabbits which had excellent food and cover. He trapped 43 bunnies in this plot and could have taken a lot more for we checked after a snow and there were plenty of signs left. I'm safe in saying we could have taken six rabbits to the acre off this refuge.—District Game Protector Norman J. Forche, Conyngham.

Hunting Accident Has Happy Ending

FOREST COUNTY—Ed Snyder related the following story to me: While rabbit hunting one day he became rather warm and sat down on a stump to rest and let his two dogs work. After sitting there a short time, he noticed that his dogs were standing in one spot. Upon investigation he found a man lying on the ground with his gun beside him and the dogs were licking his face. He said this frightened him and his first thought was that the man had been shot, so he started to run for help. On second thought he went back and called to the man who then wakened, sat up, and asked what time it was. When told the time the man said, "Holy smokes, I've been sleeping all afternoon," and took off for home.—District Game Protector George W. Miller, Marienville.



Bill Due Bluejay

WYOMING COUNTY—During the early fall and winter a bluejay was observed in the birdfeeder. The bird seemed to have peculiar eating habits, eating with the side of its bill in an awkward fashion. Other bluejays were seen feeding it from time to time though they seemed to have difficulty in doing so. The mystery was solved one cold morning in January when a dead bluejay was found and when examined was found to have no upper bill. Only two small fragments remained and these were rounded and worn as though they had been that way from birth. Apparently the parent birds or others had ceased to feed it and the bird could not survive by its own efforts. —District Game Protector Thomas W. Meehan, Mehoopany.

Fox Fails To Phase Pheasants

PHILADELPHIA COUNTY—Late one January afternoon I saw three deer standing in a corn field. Stopping to watch them I noticed a gray fox loping across the field. As I swung the field glasses toward the edge of the field, I saw two cock pheasants standing about six feet apart. The fox continued on his way and passed between the two birds. They never made a move to fly or run as the fox passed them.—District Game Protector Donald Croft, Hatboro.

Planted Property Produces Plenty

LANCASTER COUNTY—Mr. Parke Lutz, Denver, Pa., cooperator on the Farm-Game Project No. 34, called me one January evening and told me he and his wife were leaving for the south and asked if I would feed the pheasants on his property and trap the surplus rabbits. Upon their return home Mr. Lutz was amazed to learn I trapped 16 rabbits from his property. He asked where they were during the hunting season and I answered, perhaps in their burrows like many other sections in my

district this season. At the present time, there are over 200 hen pheasants and 32 cock birds on the property of Mr. Lutz, and adjoining neighbors Walter and Roy Eberly (cooperators on project No. 34). Why does the game congregate on these properties in great numbers? The answer is simple—multiflora rose hedge, coral berry, privit hedge, Norway spruce, white pine and a few small briar patches. These plantings will take a few years to mature but they sure pay off in wildlife conservation and you have many wildlife friends during the winter months.—District Game Protector Wallace Woodring, Ephrata.

Bow Hunter Aim Boomerangs

PERRY COUNTY—The following was related to me and is supposed to be a true story: During the 1954 archery season, Gerald Clouse, Landisburg, Perry County, was hunting with bow and arrow. He spied a coon in a tree and decided to try his marksmanship with bow and arrow on Mr. Coon. Just as he raised his bow to shoot, the coon jumped and attacked Mr. Clouse who elected to run, rather than have a hand to hand fight. After the coon had chased him quite a distance, the coon stopped and Mr. Clouse decided again to shoot, but at that the coon scampered away into dense cover, and as far as we know is yet Monarch of all surveys.—District Game Protector Harold E. Russell, New Bloomfield.

Just Doing The Town

COLUMBIA COUNTY—A deer that seemed to enjoy the business section of Berwick spent the entire day of January 10 in that area and "escaped," we hope, uninjured to her native habitat after dark.—District Game Protector Lewis H. Estep, Berwick.



Winterized Woodchuck

CLARION COUNTY—On December 8, 1954, while patrolling Cooperative Farm-Game Project No. 142, I observed an animal digging in the snow some distance ahead of me. I approached as quietly as possible and got within 40 feet of a woodchuck feeding on a clump of clover that it had uncovered. The animal did not seem a bit sluggish as it ran to its hole under an oil storage tank. I have seen woodchucks out in the snow before but never when the temperature was down to 6 degrees above zero as it was on this particular day.—District Game Protector Donald M. Schake, Knox.

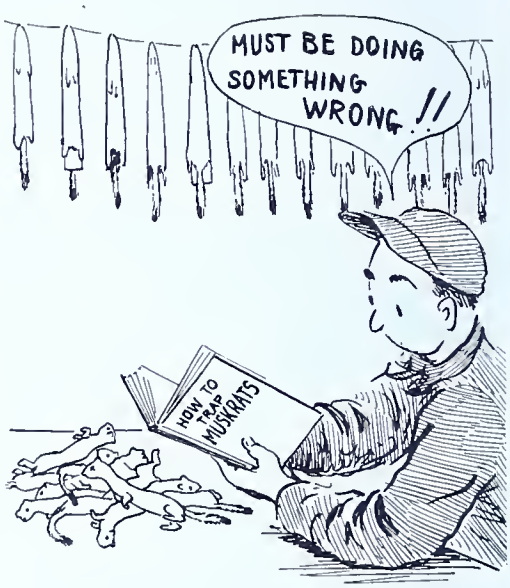
Spike Buck Evens Score—Almost

LUZERNE COUNTY—On the first day of the 1954 deer season, after checking a ten-point buck, I assisted the successful hunter, Robert Fries, of Bethlehem, in propping the gutted animal against a tree in a sitting position to allow the carcass to cool. As a precaution against having his buck shot by some trigger happy hunter, he placed his red gloves on the

deer's head. We walked about 75 yards away as he showed me where the deer had come down off the next ridge. In less than five minutes, we heard a shot in the vicinity of his dead buck. Thinking someone might be attempting to steal it we ran back, only to find a spike buck lying a few feet away from the first deer. The second hunter stated that when he first saw the spike buck, it was "hooking" the larger deer with its antlers. This was readily verified by the track in the snow, as well as by the red gloves knocked to the ground by the smaller deer. I still wonder whether the spike buck was attempting to help the ten-pointer to his feet, or was he taking this opportunity to settle the score with a recent rival.—Deputy Game Protector Don H. Williams, Wilkes-Barre.

Bunnies Befriend Bucks When Bullets Fly

MONTGOMERY COUNTY—During the past deer hunting season the hunting pressure was above normal in my district. I especially had heavy hunting pressure close around one of my rabbit farms near Schwenksville. This rabbit farm is only 20 miles from the Philadelphia City Line and consists of 240 acres. Two days after the season, I decided to look around in the refuge and see if I could find some wounded or dead deer. In company with a Deputy, we brushed it out and checked it as good as we possibly could. We did not find any dead deer, but we did kick out a large herd of lives ones. I judged that I saw about 35 or 40 and my Deputy said that he thought that it was closer to 50. I only actually saw six heads but four of these were bucks. It's just another case of the deer knowing where to go when the bullets start flying.—District Game Protector William E. Shaver, Mainland.



Underwater Weasels

YORK COUNTY—Early in the muskrat season, Howard Kerns, 127 Hanover Street, Glen Rock, related to me an unusual story regarding the catching of weasels. We had set one dozen muskrat traps and one morning had caught five weasels in his last five traps. These were all underwater sets. It is common to catch a weasel in a muskrat trap, but I have never heard of a person catching five in one morning.—District Game Protector Earl Geesaman, York.

Woodland Borders For Wildlife

BERKS COUNTY—During the past January I have checked on several woodland borders that were cut during the past four years. The snow has allowed us to make surveys as to game populations. One of the favorite thickets are the blackberry stands. Another one of the plants that hold up very well during the winter is the pokeweed. Since we have lost our fence rows, these border cuttings are an ideal substitute. It has been most encouraging to note that several quail have used these border cutting strips.—P-R Area Leader Roy Trexler, Wyomissing.

Winter—Time of Crisis

McKEAN COUNTY—On January 25, 1955, while in the storage shed on State Game Lands No. 30, I looked out the window and saw a large tom turkey feeding at the corn crib approximately 20 feet away. There was a ball of ice on its spurs and ice on the inside of the legs. While I was watching, eleven more turkeys came into feed and I noticed the tail feathers were broken on most of them and most of the feathers gone from the lower part of the body. This indicated that the deep snow and hard crust was causing the turkey to have a great deal of difficulty. Also, I believe the deer are in bad shape as they are standing haunched up and the hair standing out on their back and around the face. I have one report of a deer being found dead due to starvation.—District Game Protector William H. Shirey, Smethport.

Plinkers Panic Penelec

CENTRE COUNTY—Early in January Mr. Charles Johns, Security Investigator for the Pennsylvania Electric Company, contacted me for assistance in investigation of rifle damage to the 220,000 volt line running through State Game Lands No. 33. Our investigation revealed insulators to have been shot with a .22 calibre rifle sometime during this past hunting season or since the season went out. Mr. Johns said the 220,000 volt line is too hot to repair unless the line is shut down. Mr. Johns also said the cost of shutting down the line for repairs would be in excess of $5,000. Evidence found at the site of the damage indicates plinkers rather than hunters.—District Game Protector Robert H. Sphar, Philipsburg.

Deer Tries Polar Bear Stunt

SNYDER COUNTY—On January 14, about 7:30 a. m. I received a telephone call from a boy trapper while going over his trap line on the Middlecreek Electric Power Dam. He saw a deer in the dam that broke through the ice. I immediately went to the dam and with the assistance of a farmer and his hired boy and a small rowboat, we worked our way to the deer that was in about six or seven feet of water but had its fore feet and head above the ice and water. After working over two hours we rescued the doe that could not walk after removed. About 15 feet away was a button buck frozen in the ice which was also removed (the buck was dead). The two deer were placed in the boat and taken to shore. The doe was taken to a farmer's buildings close to the dam and placed in the barn threshing floor where it remained for three days and was then released in good condition. The doe liked its new home so well that it didn't want to leave the barn after the big doors were opened and it had to be chased out by force. It is estimated the deer was in the water at least 8 hours until rescued. The temperatures were about 15 degrees above zero.—District Game Protector Raymond E. Holtzapple, Middleburg.

Death Dots The Highways

MERCER COUNTY—During the months of September, October, November, and December 1954, I kept a very accurate log of all bird and animal life that I saw lying dead on or along the public roads of my district, as follows: Deer, 8 buck and 6 doe; 92 rabbits, 4 squirrels, 69 opossums, 4 raccoons, 4 woodchucks, 10 ringnecks, 1 chicken, 13 songbirds, 10 house cats, 4 house rats, 2 dogs, 5 skunks, 3 chipmunks, and 1 bullfrog. Figure this total up and multiply it by 150 districts in the Commonwealth and the figure would be shocking. So much of it is needless slaughter of our wildlife that could be helped simply by being a careful driver.—District Game Protector Ralph E. Flaugh, Hadley.



Bum Steer

CAMBRIA COUNTY—On the afternoon of January 31, 1955, a call was received at my headquarters that a deer was being shot at in Lower Yoder Township. Upon investigation I found that a steer had escaped from a local slaughter house and was being hunted. A local sportsman heard that a deer was being hunted, but it was a steer instead of a deer. The steer was shot in the Stonycreek River later.—District Game Protector L. D. Mostoller, Johnstown.

Protector Pits Wits

WARREN COUNTY—I was called to the clubhouse of the National Forge and Ordinance Company one morning in December concerning a deer that had fallen into a deep pit that had been dug for a septic tank. This pit was about ten feet deep and was half full of water. The deer was swimming around in the pit and seemed nearly exhausted. Some workers were there and they had planned to pump the water from the pit. This took nearly an hour. By this time the deer was exhausted and just lay in the pit. We put a rope around its head and shoulders and hauled it out. It was too weak to move and lay there for about two hours. It finally managed to get up and stood quietly for about a half hour, then meandered away into the woods apparently none the worse for its experience. It had evidently fallen into the pit sometime the previous evening.—District Game Protector William Overturf, Youngsville.

All In A Year's Work

ALLEGHENY COUNTY—During the past year many interesting happenings occurred in this district. Some of the most outstanding are as follows: In law enforcement, we had a button buck illegally killed within one mile of the Golden Triangle in the City of Pittsburgh. The violator was apprehended. In the complaint department, Deputy Mike Vosel of Bridgeville was servicing a rabbit damage complaint and ended up climbing through a second story window. Several ladies had locked themselves out of their house, with pork chops on the stove which would have burned up, had he not been there to go to the rescue. Another woman called the City of Pittsburgh police to report a man hiding cement blocks in the woods behind here. The guilty party turned out to be a State trapping agent setting box traps for rabbits that had been causing damage in that area. A man from Pittsburgh called about a squirrel that was eating the lead in wire off the antenna of his television set. Upon calling on him I took a live trap to remove some of the squirrels from that area. He informed me that all of the squirrels in that area were pets and that he only wanted the one trapped that was doing the damage. A policeman from Pittsburgh called about opossums chewing holes in his new floor. He knew they were opossums because he identified them as such from a book on wild animals. I loaned him a trap and several days later he presented me with an animal in a bag for identification. It turned out to be a common rat.—District Game Protector F. H. Servey, Clinton.

Wild Dogs—Winter Danger

HUNTINGDON COUNTY—No sooner is the deer season finished each year than the reports of packs of semi-wild dogs running deer come in to the game protectors. This year is no different than the rest; already I've received several such reports. Not only do these dogs run down the deer that were crippled in the season, as so many contend, but they also ruin a good many perfectly healthy deer each winter as the snow lays upon the ground.—District Game Protector Dean M. Lesnett, Hesston.

Trap Robber

SOMERSET COUNTY — While checking traps, I noticed the tracks of a coon leading into one of the sets. From the evidence in the snow, the coon had killed and eaten a weasel, the weasel's foot being all that remained in the trap. I have had this same thing happen before; also had coon kill and eat muskrats and mink which were caught in traps.—District Game Protector E. W. Cox, Somerset.



Some Snow

CLEARFIELD COUNTY—Heavy snows kept piling up during the hunting seasons and shortly before Christmas we had 18 inches of same. The main roads alone were kept open and travel in the remote areas was by snowshoes only. Fortunately we had all the turkey feeders filled and I doubt if game species suffered to any great extent. There is still plenty of feed on the ground, notably acorns, and the deer and turkeys seem to cooperate in digging through the loose snow for them. However, the smaller deer are somewhat shy of the turkeys, and it is amusing to watch their antics in trying to chase the intruders away.—District Game Protector Theodore C. Carlson, Clearfield.

Foxy Grouse

BERKS COUNTY—In the future, when I decide to hunt grouse, I will simply leave my bird dogs at home and hunt the rock dens with my fox terriers. On Saturday afternoon, January 29, 1955, I was hunting fox in Brecknock Township. My hounds ran a gray fox into a den under a stone approximately 25 feet in diameter. Upon approaching the den, I noticed an abundance of fox tracks around the rock and also observed three places where the foxes were entering and leaving. Upon taking a stand on top of the rock, I permitted the terriers to enter the den on the north side of the stone. Shortly I heard the dogs start barking and in another second I heard a rush in the leaves, at the opening, on the east side of the den. I immediately threw the gun to my shoulder expecting Mr. Fox to break away, but to my surprise a grouse flew out of the den. The area surrounding the rock was covered with approximately two inches of snow and there were no grouse tracks in the area. Evidently the groups had taken refuge under the stone where it was quite warm inasmuch as the

temperature was around the zero mark at daybreak.—Land Utilization Assistant Albert Bachman, Reading.

Light Attraction

GREENE COUNTY—On November 28, while attending the Greene County League Meeting, a story was related to me by Frank Trun of Fayette County. He said that one night this fall, while fishing and reeling in a catch, a strange animal swam in behind his catch. The animal took out of the water and straight for a gasoline lantern on the bank. The animal burned his nose on the glass, jumped back into the water, swam about two circles and took off. At first Mr. Trun believed it to be a muskrat, but then was sure it was a mink. —District Game Protector A. J. Ziros, Carmichaels.

Heart Warming Thanks

INDIANA COUNTY—One afternoon in November Deputy Fred Andrews, of McIntyre, was watching for squirrels when he saw a Coopers hawk chasing a grouse. They came close enough for him to kill the hawk. The next evening he returned to the same place and while waiting, he heard a grouse drumming. He walked within 30 feet of the grouse and watched it. He thought it was the same bird thanking him for saving its life and he said he didn't have the heart to shoot it. He watched it for a long time until it finally flew away.—District Game Protector B. W. Catherman, Indiana.

Any Port In A Storm

PERRY COUNTY—The Frank Flickinger boys in New Germantown heard their rabbit hounds chasing a rabbit near their home recently, then the dogs barked "treed." Upon investigation they found the dogs barking at a five gallon oil can that had a two and one-half inch opening. Upon closer examination they found a nearly full grown rabbit taking refuge in this can and the only way it could have gotten into the can was through this small opening. The rabbit in the can was witnessed by Lee Linard of New Germantown who operates a grocery store, has the post office and drives mail truck between New Germantown and Newport daily.—District Game Protector Harold Russell, New Bloomsfield.

Sporting Spirit Never Lost

COLUMBIA COUNTY — Joseph Chebro of Berwick, is not exactly what you would call an armchair hunter. His hunt for a four pointer led him astray. After following the animal until dark, he became lost trying to return to his base. Search for him was suspended at midnight. He followed the direction of airliners passing over him and finally came out near his car at 8:00 a. m. It was not balmy weather by any means on the first day and night on the rather sizeable North Mountain where he was hunting. He got himself some needed sleep and declared his intention of returning the next day.—District Game Protector Mark L. Hagenbuch, Bloomsburg.

Save A Few Seconds—Spare Wildlife

LUZERNE COUNTY—During the latter part of July while accompanying Officers Behel and Hagenbuch on an investigation along North Mountain, we stopped to look at what we thought was a grouse killed on the highway. It turned out to be five birds about half grown. Three of them had been killed and lay on the road in a six foot area and the other two were just off of the highway, one on either side. This tragedy caused by some thoughtless driver in a few seconds has taken the lives of five of the grandest natives of the Pennsylvania woodlands.—District Game Protector George A. Dieffenderfer, Wyoming.



Game Law Observance Improved Last Year

The number of successful Game Law prosecutions and the amount paid in penalties declined in Pennsylvania last year compared with 1953 figures. The number of hunting license revocations increased, however.

Perhaps there was more careful observance of the law, or the drop in apprehensions may reflect the fact there was less small game hunting in some parts of the State last season.

At any rate, the records compare as follows: In 1954 there were 4098 prosecutions successfully brought; in 1953 there were 5137. Penalties collected last year totalled $117,440.25; the year before, $162,213.65.

The hunting license revocation comparison is in reverse. In 1954, 955 revocations resulted from convictions and 85 followed referee hearings, a total of 1040. In 1953, 911 were from convictions and 72 from referee hearings, total 983. Revocations by action of the Court, generally covering misdemeanor cases, were for shooting at, wounding or killing a human in mistake for game. Referee hearings involved cases in which there was carelessness or negligence in the use of firearms while hunting.

WATCH OUT FOR WILDLIFE ON THE HIGHWAYS

How many miles did you drive today? How many wild creatures did you see crushed on the highway? Each day takes its toll. The total loss is appalling. If you care, you can help.

IN MEMORIUM

S. Harold Fisher, of Huntingdon, died suddenly of a heart attack on February 8 at the Towanda Hospital. At the time of his death Mr. Fisher was in Towanda on routine Civil Defense duties. He was the central area director of that organization.

Mr. Fisher was a member of the Pennsylvania Game Commission from August 13, 1942 to May 8, 1943.



S. Harold Fisher



FIRST BEAR in 23 years of trying was bagged by Charles Lentz, left, of Chester during the 1954 Pennsylvania bear season. Lentz is Vice-president of the Delaware County Field and Stream Association and is being congratulated by past president Shorty Manning, his hunting companion at a Cameron County camp.

Pennsylvania's Deer and Bear Kill in 1954

The Game Commission has completed the official count of big game tags mailed to Harrisburg by successful deer and bear hunters following the 1954 seasons. These returns indicate Pennsylvania still provides excellent big game hunting.

By tag count, the total number of legal antlered deer killed in Pennsylvania in the season last fall was 40,915. This figure includes 55 legal bucks taken by bowmen in the special archery season that year.

The return of tags on legal bucks bagged in the 1953 season showed 37,384, of which number 84 were taken through the use of bow and arrow in archery season.

By official tag count, 403 legal bears were reported taken in the '54 season. The number of mature bears reported taken by hunters in '53 was 303.

Though a few deer kill cards were being received daily at the end of February the tabulating was concluded on January 31. The totals here reported are based on individual tag returns from successful hunters. The figures would show the harvest of big game animal, deer particularly, to be considerably more if all persons who killed a legal buck or bear in the 1954 seasons had reported.

WATCH OUT FOR WILDLIFE ON THE HIGHWAYS

B'rer Rabbit likes to eat the tender vegetation that grows along the pavement. He likes to play with his kind on the pavement itself. Then, when an auto bears down upon him, he cannot make up his mind. He darts from side to side and, unless the driver slows down, may dart directly under the wheels.

PENNSYLVANIA GAME COMMISSION—LEGAL BIG GAME KILL
(Based on Tabulation of Game-Kill Reports)

	Counties	*Deer—Legal Antlered* 1953	1954	*Deer—Legal Antlerless* 1953	1954	*Bears* 1953	1954
					Closed		
1	Adams	167	200	39	.....	.....	.....
2	Allegheny	31	80	21	.....	.....	.....
3	Armstrong	194	327	100	.....	.....	.....
4	Beaver	70	88	13	.....	.....	.....
5	Bedford	571	665	158	.....	.....	.....
6	Berks	288	304	100	.....	.....	.....
7	Blair	431	695	88	.....	.....	.....
8	Bradford	780	1,018	413	.....	3	7
9	Bucks	146	188	46	.....	.....	.....
10	Butler	230	361	85	.....	.....	.....
11	Cambria	406	575	124	.....	.....	.....
12	Cameron	926	776	531	.....	11	46
13	Carbon	526	582	116	.....	.....	5
14	Centre	1,604	1,847	505	.....	16	7
15	Chester	80	87	27	.....	.....	.....
16	Clarion	464	602	225	.....	3	1
17	Clearfield	1,505	1,541	923	.....	13	12
18	Clinton	1,097	1,182	399	.....	18	39
19	Columbia	356	374	134	.....	.....	1
20	Crawford	266	428	141	.....	.....	.....
21	Cumberland	240	233	34	.....	.....	.....
22	Dauphin	341	404	112	.....	.....	.....
23	Delaware	9	10	.....	.....	.....	.....
24	Elk	1,953	1,982	820	.....	19	31
25	Erie	214	271	102	.....	.....	.....
26	Fayette	356	356	116	.....	.....	.....
27	Forest	1,558	1,132	846	.....	10	36
28	Franklin	505	571	142	.....	.....	.....
29	Fulton	285	317	141	.....	.....	.....
30	Greene	64	97	25	.....	.....	.....
31	Huntingdon	899	1,128	336	.....	2	1
32	Indiana	388	553	232	.....	1	.....
33	Jefferson	523	734	253	.....	8	12
34	Juniata	464	368	122	.....	.....	.....
35	Lackawanna	297	468	75	.....	15	17
36	Lancaster	48	62	21	.....	.....	.....
37	Lawrence	47	84	21	.....	.....	.....
38	Lebanon	186	186	49	.....	.....	.....
39	Lehigh	59	72	9	.....	.....	.....
40	Luzerne	833	971	204	.....	4	10
41	Lycoming	1,391	1,485	589	.....	22	37
42	McKean	1,713	1,655	1,059	.....	17	13
43	Mercer	112	149	62	.....	.....	.....
44	Mifflin	423	470	161	.....	2	2
45	Monroe	925	1,058	285	.....	23	14
46	Montgomery	43	51	21	.....	.....	.....
47	Montour	26	37	10	.....	.....	.....
48	Northampton	79	95	19	.....	.....	.....
49	Northumberland	172	211	61	.....	.....	.....
50	Perry	576	652	194	.....	.....	.....
51	Philadelphia	.....	.....	.....	.....	.....	.....
52	Pike	1,385	1,265	486	.....	31	40
53	Potter	1,675	1,696	1,320	.....	29	13
54	Schuylkill	634	779	211	.....	.....	.....
55	Snyder	173	170	76	.....	.....	1
56	Somerset	987	1,138	455	.....	.....	.....
57	Sullivan	1,188	944	500	.....	7	5
58	Susquehanna	568	732	313	.....	.....	.....
59	Tioga	1,138	1,275	585	.....	20	23
60	Union	253	309	78	.....	9	1
61	Venango	562	734	299	.....	.....	1
62	Warren	1,667	1,404	855	.....	9	19
63	Washington	40	60	18	.....	.....	.....
64	Wayne	1,030	1,264	502	.....	7	4
65	Westmoreland	675	767	57	.....	.....	.....
66	Wyoming	386	417	129	.....	4	5
67	York	126	142	43	.....	.....	.....
	County Unknown	30	47	16	.....	.....	.....
	Total	37,384*	40,925**	16,252	.....	303	403

* Includes 84 Deer killed during the Special Archery Season.
** Includes 55 Deer killed during the Special Archery Season.



Photo Courtesy Thomas Studio

LIKE FATHER LIKE SONS was case of these three 1954 deer hunters. All ministers, the trio bagged their bucks on the morning of opening day in Elk County. Left to right, Rev. D. M. Kifler, of Bruin; Rev. D. V. Kiffer, of Ridgway; and Rev. T. E. Kiffer, of Northeast.

Writer Takes Look at Deer Kill Tabulation Method

Joe Carricato, outdoor writer for the *Patriot-News,* Harrisburg, said in his Sunday column of January 2nd:

"Knowing the Game Code requires the hunter who has killed deer or bear to report the fact to the Game Commission within five days after the season, our hunters can't understand why it takes so very long for the total deer kill to be published.

"We went to the Game Commission office of statistician Dewey Long. Here's how Long handles those deer tags you lucky hunters mail to Harrisburg. In an arrangement of compartments or 'cubby holes' familiar to postal clerks there is one for each of Pennsylvania's 67 counties. When the deer tags arrive at the Harrisburg Post Office they are bundled, stamped and delivered to the Game Commission. If there are 200 (postage due) tags in a day's delivery, postal clerks affix a $5 and a $1 stamp to the top of the bundle. Money for these stamps is deposited with the post office at the beginning of the big game season. The post office counts the tags to determine the postage due and the game office checks them to insure against overcharge. After a count is reached on the deer kill by counties, a re-count is made before releasing the figure to the public.

"In fairness to Game Commission employes, we can't expect a final tabulation of the deer kill much sooner than is customary. It's the hunters who slow up the process of final tabulation. To illustrate, this past Wednesday 360 tags were received, more than two weeks after the end of deer season. The previous day 487 tags were received.

"Now you know why we must wait far into 1955 to be informed how many deer were killed in 1954. To make a long story short, we fellows who have been crying the blues can start eating crow. That postage due account shows more than 39,000 deer-kill reported to date."

How Old Do Deer Grow in Pennsylvania?

Penned deer have been known to live to the ripe old age of 18 or 19 years. There are recorded cases of does bearing young, even twin fawns, at nearly that age. But the life expectancy of these animals in the wild appears to be well below the teens in this State today.

These questions have long been pondered: Do many deer die of old age in Pennsylvania? What is the age bracket of most deer kill by hunters, and what is the age of most deer dying from all causes? Studies are being made to learn the answers in the interest of scientific herd management.

Records kept by Stanley E. Forbes, a research man who has been studying the white-tailed deer in Pennsylvania for 7 years, are revealing. Important information on these popular big game animals was gleaned from his twelve-month report ending June 30, 1954. In that period 1787 deer—1256 males and 530 females—were examined, most of them in the buck and doe seasons of 1953.

During the regular deer season most data is gathered by researchers. During the remainder of the year it is necessary to rely on District Game Protectors for information. Over the State, these officers and their deputies are in best position to examine many deer killed for crop damage or by vehicles. Without a fairly reliable population estimate and a knowledge of annual replacement (prediction of the expected fawn crop) proper management of the herd through hunting regulations is impossible. When the known mortality of deer in the remainder of the year is combined with the hunting season kill it is possible for researchers to compute a fairly reliable population estimate.

BEAR PAW ROD AND GUN CLUB with members from Columbia and Lancaster County bagged these five bucks in 1954 season, hunting from their camp in Cameron County. Since 1946, club has killed 35 legal antlered deer and 3 bears.

Photo Courtesy Columbia News







PGC Photos by Parlaman

PENNSYLVANIA DEER STORY is graphically illustrated in two photos above. Left is Deputy Game Protector Galen McCullough, of Warren, holding two deer killed legally during 1953 season. Estimated weight of two animals was 50 pounds. Officers convinced embarassed hunters who bagged these deer that they did the most humane thing, that deer would never have lived through winter. At right, Deputy Game Protector Charles Lane examines a 1953 fawn dead from starvation, found within one-half mile of where two deer were harvested. The fawn was found on February 21.

Data on pregnancy of females, in addition to reflecting range conditions, also indicates rate of reproduction.

A sampling of the ages of deer bagged by hunters in the 1953 season and examined by State research men showed that about 95% of the bucks were in the 1½ to 4½-year age group. A rapid decline in numbers from that age to the oldest deer recorded was noted.

According to Forbes' findings, the numbers of female deer in the older categories were considerably higher than those of males. The reason given is that bucks are hunted for a two-week period each year, when all hunters may participate. But the antlerless deer harvest, if any, has been more restricted, both as to number of days and number of hunters.

Information collected on deer age is of paramount importance to wild life managers because it reflects the age composition of the deer herd. This is considered the most reliable means of computing the average annual reduction rate. That is, the herd reduction taking place each year due to all causes of mortality. Studies show that over a period of ten years, ending in 1954, about 37% of Pennsylvania's male deer were killed annually due to all causes, compared to 15% of female deer.

During a long life span many of the animals would meet their end from causes other than hunter's weapons. Thousands die annually on the highway, are killed for crop damage, die from disease, succumb to malnutrition in winter, or die from other causes. These deer do not provide recreation for the hunter, of course, and many of them are wasted animals. Information collected by wildlife scientists indicates that, for the greatest amount of recreation and least waste, sportsmen should harvest the deer while the animals are young.

Cooperative Program Pays Off on Allegheny National Forest

The Allegheny National Forest, the only national forest in Pennsylvania, provides nearly one-half million acres of open hunting territory to sportsmen. On this Forest are found deer, bears, wild turkeys, cottontail rabbits, grouse, squirrels, snowshoe rabbits, and other resident wild creatures. Migrant species such as woodcocks, ducks and geese also inhabit the area or stop there during migrations.

The Allegheny Forest includes portions of Warren, Forest, McKean and Elk Counties. Administrative headquarters is at Warren, and ranger stations are located at Sheffield and Marienville.

In 1950 the U. S. Forest Service and the Pennsylvania Game Commission signed an agreement whereby employes of the state agency could develop wildlife food and cover on the federal land through methods and in areas sanctioned by the Forest administrators.

Representatives of the two agencies concerned held their annual meeting recently in Harrisburg and planned the 1955 wildlife program on the forest. Richard J. Costley, Supervisor of the Allegheny National Forest, and associates met with Logan J. Bennett, Executive Director of the Game Commission and his staff.

This occasion suggested a review of the wildlife food and cover accomplishments on the Forest in 1954. The following information will indicate the scope and character of the projects, though they are too numerous to elaborate in detail.

Food strips were cleared, planted, mowed, limed or fertilized; woodland borders were cut and forest thinnings were made to allow sunlight to reach the ground; apple trees were released from suppressing vegetation; other food bearers were freed from choking growths to allow abundant fruiting; tree seedlings were planted; and marsh areas were improved in the interest of wildlife. In short, the area became more attractive for all wildlife species because of these activities.

Local sportsmen and those from afar have noted how game conditions on the Forest have improved. It is particularly gratifying to note the upswing in the wild turkey population. Whereas sportsmen formerly hunted the area principally for deer and bears, they now find a more diversified game population.

In addition to existing food strips miles of old tram roads have been planted, or will be planted, to grasses and succulent clovers. This highly beneficial practice provides foods for wild game, large and small. The planted road beds are also a source of insects needed in the summer diet of wild turkeys and grouse.

In 1954 one marsh of 6½ acres was completed on the Forest. Two others, one of 12 and the other of 14 acres, are about one-third finished. Several small dams were previously established in the Marienville region. Completed water impoundments have been improved to furnish food and cover for wild waterfowl and other game species. New dams will be planted and developed similarly.

Conditions for wildlife have been improved considerably by the cooperative program on the Allegheny National Forest. It is planned that the wildlife management program will continue between the efforts of the Forest Service and the Pennsylvania Game Commission.

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TYPICAL PENNSYLVANIA FARM SCENE is re-created in Philadelphia Academy's new wildlife exhibit. Skilful use of mounted specimens and painted backgrounds give realistic look to display.



New Wildlife Exhibits at Philadelphia Academy

The Academy of Natural Sciences, Philadelphia, presented its new Pennsylvania wildlife exhibits to hundreds of members of the Academy and guests the evening of February 15. The exhibits were opened to the public the following day.

In the words of an announcement by the Academy: "These creatures are representative of the wealth of wildlife that abounds in every one of the 67 counties of the State of Pennsylvania.

"The Academy of Natural Sciences, cooperating with the Pennsylvania State Game Commission, is presenting to the public a panoramic study, in 3 dimensional form, of the great and the small, the rare and the common mammals that wander through the fields and forests of Pennsylvania."

OPOSSUM AND SKUNK families look almost alive in one panoramic study.

Izaac Walton League Announces New Plan to Conserve Soil

The Walton Soil Plan, released publicly last January by the Izaak Walton League of America, has as its main objective the restoration of soil fertility and moisture content on nearly 70 million acres of marginal cropland, the Wildlife Management Institute reports. In essence, the plan would have the Department of Agriculture lease and remove from direct agricultural production sufficient acreages of inferior farmland to bring the production of foodstuffs back into line with demand.

The minimum terms of the leases would be five years in humid areas where the land is devoted to annual crops; 10 years in semi-arid or cyclically arid areas; and not less than 20 years where reforestation would be required.

To be eligible, a landowner would have to satisfy certain requirements relating to land ownership and farming practice. The costs of soil amendments, fertilizers, and seeds would be borne by the Department of Agriculture. The land owner would perform the soil conditioning and seeding work. The lease fee would be determined on a scale that involves the fair cash rental price of the land based on past productivity and the full parity price for the products. This figure would be adjusted percentagewise on the land's need for soil stabilization and restoration. The value of the lease would be calculated by a professional land appraiser and a representative of the Agriculture Department.

It is the League's thought that the plan eventually would supplant the present system of price supports. The plan suggests that price supports be decreased each year for three years, at which time the Walton Soil Plan itself would act in the nature of an indirect price support program.

The League recognizes that its plan might need local interpretation, as do all programs of national scope. Comments are invited at the League's national headquarters in Chicago. It is gratifying to see the Waltonians pick up and feature this program. Conservationists have favored it for some time, and it merits continued support.

Fur Prize Awarded Pennsylvanian

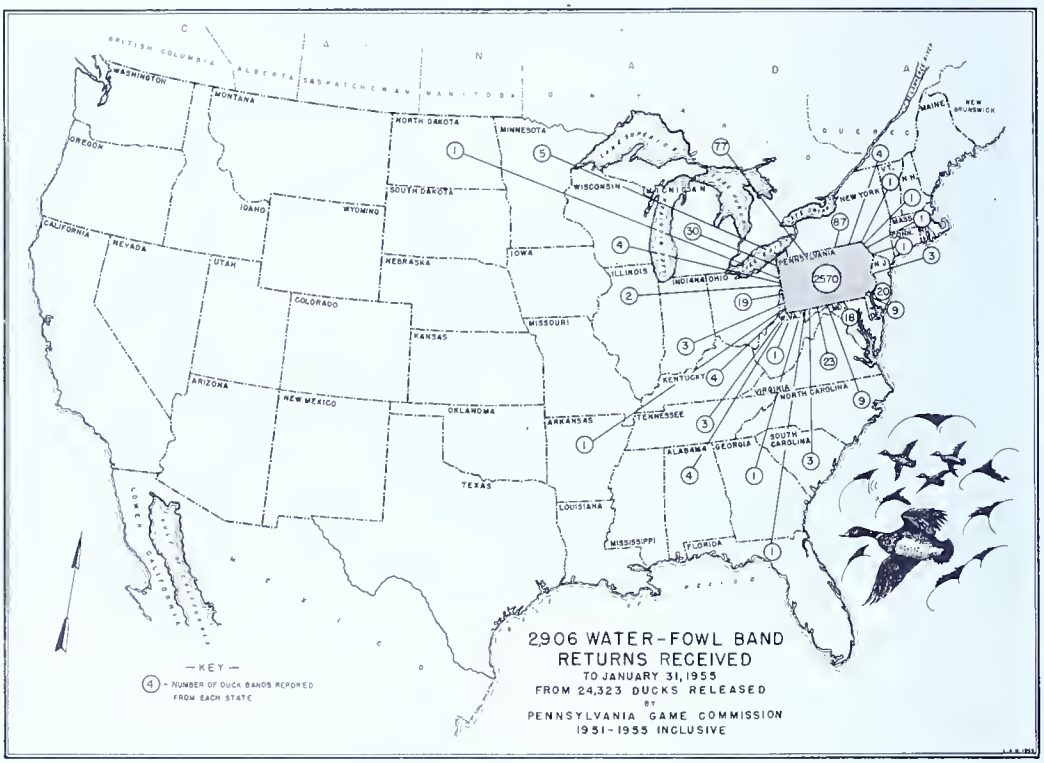
Recently, an R. D., Duncannon man, a trapper named Robert I. Fox, received one of the National prizes awarded each winter by Sears, Roebuck & Co. The award was made at a luncheon in Harrisburg. The manager of the local store, the Mayor of Harrisburg, the Executive Director of the Game Commission, and other notables attended.

The occasion served to emphasize something wildlife authorities and fur dealers have often stressed: the careful skinning, fleshing and stretching of wild-caught skins are necessary if the trapper is to realize the maximum dollar return for them, wherever sold. Careless handling of products of the trap line means a reduction in pelt value, and waste of a valuable natural resource.

Fox was given $200 by the company for submitting the best-prepared, complete shipment of five or more wild-caught furs in one of the firm's contest weeks this winter. The prize-winning pelts were from muskrats trapped in Shermans Creek, Perry County.

WATCH OUT FOR WILDLIFE ON THE HIGHWAYS

A squirrel is a fast man in a tree, but he is at a disadvantage on the ground. That last split second as the automobile thunders down upon him means the difference of life or death to him. Give him a "brake." Most times a light touch will do.



Pennsylvania's Banded Ducks Got Around

In the spring and early summer of 1954 the Game Commission reared and leg-banded 7891 mallard ducks. The birds were released over likely water areas in Pennsylvania. This number was about 800 more than in 1953. In addition 250 ducks similarly raised from day-olds by Commission personnel were retained for egg production this year.

Records on these birds, up to January 18 this year, provide information of interest to outdoorsmen. They are of value, too, to the game authorities in planning ways to improve the program. Bands returned from ducks released by the Commission in 1954 totaled 816. Others numbering 51 came from ducks similarly liberated in Pennsylvania in 1953, seven from those turned loose in 1952, and three from 1951 releases. All told, band returns in 1954 and early 1955 numbered 877.

Many were recovered from within Pennsylvania, but 33 of the ducks liberated in 1954 came from the Province of Ontario, 31 from the State of New York and 10 from Ohio.

These ducks really had get up and go. Reports showed they went to the following States and one Canadian Province, in addition to those cited above: Michigan, Virginia, New Jersey, Rhode Island, Delaware, Kentucky, Alabama, North and South Carolina, Illinois, Wisconsin, Arkansas and Quebec.

Robert E. Latimer, the Game Commission's wild waterfowl coordinator, says the above report follows the recent-year pattern. He added that more returns would have value in guiding wildfowl administrators. About 40% of the Pennylvania returns were made by Game Protectors, he says.

Latimer also stated the late summer migrations of Commission-reared ducks is normal. As they develop wing strength the young ducks want to go places, he says, and north is as good a direction as any. This is the reason why band returns are made from northern States and Canada.



OUTDOOR FUN WITH A FUTURE



Woods and Wildlife

By Ted S. Pettit

IT'S difficult to think of Pennsylvania forests without thinking of some of the most interesting and spectacular game animals found in the state. Pennsylvania's two big game animals—whitetail deer and black bear are almost always found in the forest. The king of the game birds—the ruffed grouse—and the wild turkey are forest species. Where most trees are plentiful and supply ample quantities of nuts and acorns, we generally find squirrels; and along the forest edges and woodlot boundaries we find the most sought after game animal of all, the cottontail. It's a little disturbing to think what Pennsylvania would be without its forests, large or small, for these woodlands provide food, shelter and homes for the state's biggest game animals and its most spectacular game birds.

But game conservation experts tell us an interesting story about forests. They show that we are not correct if we think that there is a great abundance of wildlife in the densest forests. For where we find large stands of mature trees—and little or no underbrush—only a few species such as the grey squirrel find ideal living conditions. Most animals, such as deer, cottontails, fox squirrels, turkeys or grouse were found in the open woodlands, along the edges of marshes or prairies and in the brush that grew after fires that were set by lightning or man.

When the early settlers arrived, and cleared woods for farming or for lumber, these animals spread out and could live where previously conditions were not suitable. Thus we see that we can improve living conditions for wildlife by the right kind of forestry practices. Many trained foresters today recognize wildlife as a product of forest management along with saw logs or paper pulp, and plan their management practices accordingly.

Improving Woodlands for Wildlife

In considering things that we can do to improve woodlands for wildlife, let's start with an established wooded area. But first, let's think for a minute about what animals need to prosper in a forest.

Like you or me, they need food of the right kind and enough of it; places to raise their young; and places to find shelter from their enemies. For most animals, that means a brushy undergrowth of the right kind of shrubs, growing close to the ground. For some animals such as squirrels or raccoons, it means den trees as well. How do we go about getting these things?

One thing to do, if the woodland is an old one with large trees that shade out undergrowth—or a dense stand of second growth trees that also shades out undergrowth, is cut trees to provide woodland openings. Blocks of trees can be cut to let the sun reach the ground.

Two things will happen. The stumps may produce some new shoots or sprouts that will grow densely and provide browse and cover. Other shrubs that need light will grow for a few years until the trees again shade them out. But in the meantime, these shrubs such as blackberry, raspberry, elderberry and others will provide food and cover.

Along the edge of the woods, a twenty or thirty foot wide strip of trees can be cut. A heavy growth of brush will then come up because the sun can get at the ground. This brush will provide food and cover, and will also act as a windbreak. It will slow up the drying winds and push them up over the forest, thus helping to keep the woodland soil moist so that young trees can grow. The young trees in turn provide browse and buds for game animals to eat.

Sooner or later, of course, trees will again grow along this border, and to keep it as a brushy border you will have to cut it over every few years.

The chief purpose of these two kinds of cutting is to provide different stages of plant growth in and along the edges of the woodlot or forest and to break up large stands of trees. These different stages of growth and a larger variety of shrubs that will grow in such openings help provide the three things that animals need to live and increase in numbers.

The trees or saplings that are cut to make these openings should not be wasted. If large enough, they may be ued for saw logs. If not, they may be be useful as fence post or fuel. The branches and saplings may be used to build brushpiles along the edges or in nearby fencerows or hedgerows.

To make a brushpile, criss-cross cuttings such as saplings or branches to form a pile at least six feet high and fifteen to twenty feet across. Put large branches on top to weight it down so wind will not blow it over. But place the brushpile just at the woodland edge, so that animals can get to it and away from it without exposing themselves to enemies.

The brushpile will serve several purposes. Immediately animals can hide in it. But birds will perch on it, and build nests in it. Their droppings will contain seeds of food shrubs, and before long in and around the brushpile, you will find these shrubs starting to grow. Later on, there will be a dense thicket of shrubs that provide food.

Meantime, a woodchuck may dig a burrow under the pile, and the burrow in time may supply a home for a family of rabbits. A string of brushpiles along the edge of woodlot, and around a woodland opening is an easy and very practical project, and in a relatively short length of time, it will help improve conditions for wildlife in the area.

Many woodlots are almost useless for wildlife because of cattle grazing in them. Livestock grazing in a forested area keep young trees from growing to supply ground cover and food. Just as important, cattle grazing in the woods will pack down the soil so that rain water cannot soak in and fill the needs of the older trees already growing there. A grazed woodlot is not a good pasture or a good woodlot. If it is grazed for too many years, there will be no young trees to replace the old ones when they die, and in the meantime the cattle themselves do not find as good grazing as they do in an open pasture. Few kinds of wildlife can find the right kind of living conditions in a grazed woodlot.

The best plan is to fence the wood-



CROSS-SECTION OF WOODLAND BEFORE CUTTING



CROSS-SECTION OF WOODLAND AFTER CUTTING

lot to keep cattle out. At first, a wire fence will probably be necessary, and the woodlot by itself will take many years to recover. Between the fences and the forest, it may be necessary to plant trees or shrubs to act as a windbreak, and to provide the ground cover that animals need. Spruces or pines planted along the edge, and back into the woods will serve this purpose. They will grow quickly, and they grow well in partial shade. As they grow, they will help keep wind out of the woods and help the soil retain its moisture.

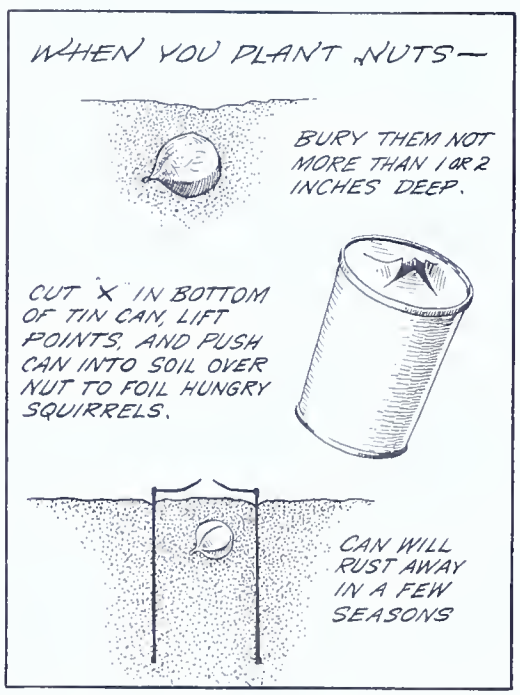
Providing den trees in a forest is another reasonably easy and worthwhile project. Many times, it involves nothing more than leaving a dead or dying tree where it is, instead of cutting it for fuel. Den trees are usually easy to find. They are large trees with hollow places in them—sections of trunks that have rotted out. Sometimes branches have died and have fallen off, leaving a rotted out hole in which squirrels, raccoons or wood ducks may build a den or nest.

In many woodlots, there are what foresters call wolf trees. These may be huge birch or maples whose branches spread out and shade out more desirable trees. Many of these wolf trees would make fine den trees, but they are still sound and healthy. They may be killed by girdling. Use an axe, and cut through the bark to the wood in a circle about three feet up from the ground. This will kill

the tree and in a few years it will be a den tree. In the meantime it will cease shading out the trees around it, and they will be able to grow straight and healthy, getting the light they need and the nutrients from the soil that the wolf tree previously used up.

There is one more project that may be carried out in a woodland, or along its edge, to improve conditions for wildlife.

Sometimes the trees in a forest are too high for animals to reach the new shoots or buds for food. Trees such as aspen or poplar provide browse for deer and the buds are eaten by grouse. It's easy to saw or chop halfway through trees of this sort, about four feet up from the ground, and push them over. Sap will still flow thru half of the tree and keep the new growth green; and the buds will become new leaves. Animals can now reach the food and at the same time the tree will provide some ground cover. If several trees are cut in this way in a small block, light will enter the opening and enable shrubs to grow at the same time.



Planting Trees for Wildlife

So far, we have been talking about things to do in a woodlot or forest that already exists. But there is another phase of "forests and wildlife," that is equally important—planting trees or creating wooded areas where none grow now.

There are several kinds of places on many farms, campsites or open land suitable for trees. In fact many of these areas probably should have been left in trees in the first place instead of being cleared for planting or pasture.

Steep hillsides, rocky slopes or rocky field, the edges of ponds or streams, eroded gullies, abandoned pastures or abandoned farmland—all may be planted in trees, and planted so that they are beneficial for wildlife as well as productive of future wood products.

Two of the best areas on which I have hunted grouse were farmed up to about twenty years ago. They were then planted in spruce and pine—and now produce a good supply of game birds along with new tree growth each year. The secret though, was planting the young trees in strips, instead of large solid blocks.

In one area, spruces were planted in an old apple orchard. The young trees were planted in the open area between the rows of trees. The result now is something like this: five rows of spruces (planted 8 feet apart in a row): a row of apple trees planted about forty feet apart; five rows of spruces; another row of apple trees, etc., covering about fifty acres.

In the open areas in which the apple trees grow are all sorts of shrubs and small hardwoods that provide food for grouse. Of course, the apple trees themselves provide good food. The dense growth of spruces provide ample cover in the coldest weather. Together, they make an excellent grouse and rabbit habitat. Of course, you almost have to shoot





from the hip to hit a bird or a bunny before it gets out of the open strip into the dense spruce—but that just adds to the thrill.

The second area is much the same, except that the conifers are pines, and the food strips were planted in between. In that area pines were planted in strips of ten rows each, with trees ten feet apart in a row. Between the ten-row strips of pines are fifty-foot wide strips of mixed food shrubs for wildlife—dogwood, high-bush cranberry, elderberry, several annuals such as corn, and other foods. Much the same conditions exist. The birds and rabbits feed in the food strips and find cover in the dense pines.

This method of planting provides the hint for helping wildlife. Plant pines or spruces in strips—and leave open areas in between. These open strips will have to be "managed," or trees will soon grow up and compete with the pines or spruces. By cutting down trees as they grow in the open areas, you can keep the open strips in a brush stage that will provide food and cover. Some brush piles in the open strips would help too.

Other areas that are suitable for planting in trees are eroded gullies and rocky slopes. The trees will help prevent erosion and will gradually heal the gully or eroding slopes. But at the same time, these trees provide shelter and homes for wildlife.

Mast Trees

Mast is a word that you may associate only with sail boats. But it also means the many kinds of nuts that grow on trees. Several kinds of animals make good use of mast, among them being raccoons, deer, bears, pheasants, turkeys, quail, grouse, ducks and squirrels. So trees such as oaks, beech, hickory, walnut or butternut are all important to wildlife.

You've probably seen these trees growing in the open—along fences, roads or field edges. You've probably noticed their spreading tops—and the fact that they produce much larger crops of nuts than trees in the forest that have smaller crowns. You can use this observation in wildlife conservation work. If there are mast trees growing in the open, leave them there—and if necessary, cut out any competing trees that slow up their growth. Even in the woods, you might cut around a few mast trees to give

them more room to spread out and produce larger crops of game food.

It's also a good idea to plant the nuts of these trees to help them get a start, if necessary. It was a well-known Pennsylvanian—John M. Phillips, the first chairman of the State Game Commission who was a pioneer in the planting of nuts for trees for wildlife. He worked with the Boy Scouts and other groups nearly fifty years ago, to be sure that you and your friends today would have better hunting because of his work.

When you plant walnuts, hickory nuts or acorns you must do it carefully. First, the nuts cannot be planted more than an inch or two deep. But squirrels may dig them up for food. So to prevent this, use old tin cans, with one end cut out. In the other end cut an X with each leg being an inch and a half long. Bend up the points a little and push the can open end down over the nut. Be sure to push the can all the way into the ground so that the cut is flush with ground level.

When the nut sprouts, the seedling will grow up through the X cut opening. By the time the tree is large enough, the can will have rusted away. But for the first growing season the can will protect the nut from squirrels.

Such plantings of trees like walnuts, can be made along fences, wood edges and roadways. They should be planted so as to form a lane or runway to cover. In that way animals coming out to feed will not as easily fall prey to their enemies.

These are some ways in which you can help improve conditions for wildlife in wooded areas, and thus help guarantee future fun in years to come, whether you hunt with gun or camera. In the process of doing these things, you'll find that you will be completing 4-H projects, FFA activity programs, Boy or Girl Scout requirements or junior sportsman club programs.

These conservation projects may seem like work. But they are really fun with a future if you get some friends together and work on them as a group. The future of wildlife depends upon what you do today.

Watershed Study Yields Strong Evidence

How a watershed responds to proper management is shown in the record of eastern Tennessee's White Hollow drainage. For 15 years, foresters and hydrologists kept detailed notes on changes in the 1,715-acre watershed's plant cover and the flow of water and the movement of silt in White Creek, the Wildlife Management Institute reports.

Although most of the land in this hill country is ill-suited for farming, small plots along the ridge tops and in the bottoms were being cultivated when the TVA acquired the tract. These were hard-to-till lands that needed plenty of management to keep them in crop production. The soils primarily were suited for the growth of timber and it was the effects of improved plant cover on the watershed that the scientists sought to study.

After 15 years of reforestation and natural revegetation, and with protection from fire and insects, scientists report that the forest cover has so improved that summer peak water flows have been reduced by from 73 to 92 per cent. The duration of summer storm runoff has been prolonged up to 500 per cent, and a more sustained waterflow has resulted without any material change in the total water yield. The original forest cover has increased in volume from 4,444,000 to 7,104,000 board feet. White Creek now maintains a flow of clear water suitable for the rearing of trout.



Hangers for Clothes

By Don Shiner

Photos by the Author

CROWS provide hunting thrills the year round for Pennsylvania gunners. Those experienced in gunning for these birds say it is comparable to the sport of pheasant shooting, turkey calling and duck decoying all rolled into one. This opinion stems largely from the fact that this brand of hunting calls for the expert use of blinds, calls and decoys.

Blinds might be clusters of corn shocks in open farm land, thick growth of hemlock limbs along fence rows or an old farm wagon abandoned in the field. Imitating the calls of this bird is highly important, but skill is acquired after a few hours of studying and observing the actions of these crafty birds. Then for additional aids in luring the black birds into gun range, a set of good looking decoys must be spread naturally in the field. Posted in a corner of a freshly manured field, among scattered bunches of chicken feathers or in leaf bare trees around a live or mounted owl, the decoys will bring crows within easy range of hunters.

Several styles of decoys suitable for fooling crows into coming to preselected hunting sites are available at local stores. But one style that is amazingly effective can be fashioned from wire clothes hangers and a few sheets of black paper. About twelve will form a suitable set of decoys. Gather this number of discarded wire



CLOTHES HANGER decoys are made by bending one end to the outline of crow head and beak, the other to form tail feathers. Shape some hangers to give side view silhouette, others to give top views as seen by birds directly overhead.

WRAP FRAMES of both side and top silhouettes with black crepe paper, pasting or stapling ends to wire. Straighten wire hook to serve as stake for holding decoy erect in the field or on fence post.



hangers, then spend an evening at home making them. Light weight, compactness, and ease of portability mark the advantages of these wire frame decoys.

Use a pair of pliers to bend one end of the hangers to form the head and beak of this bird, the other end to form the tail feathers. Straighten the hook for a support when setting the decoys in the field or fence row. Then wrap black crepe paper around the frame, pasting or stapling the ends to hold the wrapping securely in place.

Bend some of the wire hangers as side views of crows, others as top view outlines to be viewed from the air as crows squatted in the field. With both types scattered about in the flock, the side silhouettes will show clearly to crows coming in at a low angle; top views plainly visible to those birds directly overhead. Regardless of position, incoming game will acquire a realistic impression of birds sitting on the ground.

Make an owl decoy too from one of these discarded wire hangers. Bend one in the shape of a great horned owl, later wrapping it with brown or gray paper, dabbing with paint to give the impression of mottled plumage.

These decoys are durable. Barring a drenching rain or snow storm, the paper and wire frame will withstand hard field use without acquiring a shaggy appearance. An entire season of crow hunting can be had with one covering of the wire, making these decoys inexpensive and readily available to every hunter.

Learn to build blinds and use a call effectively. Coupled with the wire frame decoys, thrilling hunting experiences are in store for the hunters of Pennsylvania when matching wits with these intelligent black birds.

LEARN TO USE CROW CALL and you can expect some fine shooting afield. Best way to master technique of calling is to learn from some other sportsman and then practice until your calling is successful. Crows are exceptionally wary; false notes or calls will scare them away.





WILD GAME "SHOOTS" ITSELF

Outdoor Photographers League Photos

By Joe McHenry

READERS of PENNSYLVANIA GAME NEWS will recall the fine spread of deer portraits, which appeared in the July 1952 issue. The photographs were particularly unusual, since all were made by the animals themselves.

The unique device which the deer used for taking their own pictures was first built by Joseph J. McHenry of St. Marys, Pennsylvania, in collaboration with a sportsman-friend, Norbert Wolf. They nested a 35mm camera inside a metal box with lens peephole cut in front. A flashbulb was inserted in a discarded Ford reflector, mounted atop the box. A fine thread or wire was strung across a runway or salt lick frequented by deer, one end being anchored in the brush and another to a battery-operated solenoid arrangement on the camera. The latter, of course, was secured firmly to a tree, pointing down into the field of action. Thus, an animal ambling down the trail need only brush against the thread to click the shutter and explode the flash.

McHenry's initial experiments met with such good success that he began experimenting with other types of sets and using other makes of cameras. Work progressed slowly and much patience was required, since only one flash picture could be taken each night, unless the cameraman remained nearby or returned later to advance the film and insert a new flashbulb.

In the last couple of years no grass has been growing under the boots of Joe McHenry. While fellow shutter-clickers were content to shoot cute studies of the family heir, or closeups of strings of dead fish or game as evidence of their prowess, Joe has been amassing what is perhaps one of the finest albums of wild deer pix ever taken at night in Pennsylvania, if not in the entire country. He has front views, side views, rear views of deer, shown kneeling, leaping, or



TAUT WIRE stretched across runway baited with apples, corn or salt blocks trips the camera. This big doe literally took her own picture.



BIG BUCK looks a bit startled as flash goes off. McHenry sets trip wire higher for bucks than does.

just plain staring into the camera lens. His average exposure for average distances run f/8, 1/100 second, with a No. 11 flashbulb and fast film.

McHenry has not only worked his set-up on deer, but he has filmed wild turkey, the state's smartest game bird, and his most recent success was with Pennsylvania's elk, which were first released in the area in 1924. Despite the fact that the season has been closed since 1932, and the animals obviously should have been "tame," it took Joe just nine weeks to coax the elk to come into the lick.

"In that time, I drove well over a thousand miles," Joe recalled. "After drawing five blanks, and having an elk foul up my camera, I managed to get a good picture of a cow elk and fawn deer nursing on the elk, with a lonely calf elk in the same picture. I also got a nice shot of a bull elk on one of my first tries, and this gave me all the encouragement I needed."

PENNSYLVANIA GAME COMMISSION
OFFICIAL 1954 GAME KILL

Species	*Season of 1954** *Number*	*Season of 1953** *Number*
Deer, Legal Antlered	40,915**	37,384***
Deer, Legal Antlerless	(Closed)	16,252
Total Deer	40,915	53,636
Bears	403	303
Rabbits	1,537,722	1,398,132
Hares (Snowshoes)	2,736	4,237
Hungarian Partridges	(Closed)	(Closed)
Squirrels	721,933	771,772
Raccoons	101,980	129,258
Wild Turkeys	16,202	14,604
Ruffed Grouse	53,643	62,028
Ringneck Pheasants	428,149	452,915
Quail	7,097	(Closed)
Woodcocks	11,816	10,225
Rails, Gallinules and Coots	6,257	4,037
Grackles (Blackbirds)	.....#	.....#
Wild Waterfowl	53,791	53,595
Woodchucks	329,658	332,167
Doves	19,954	12,693
Total Number	3,332,256	3,299,602

* Small Game, based on Field Officers estimates; Big Game, based on individual reports filed by hunters.

** Includes 55 Deer killed during the 1954 Special Archery Season.

*** Includes 84 Deer killed during the 1953 Special Archery Season.

Unprotected—No data.

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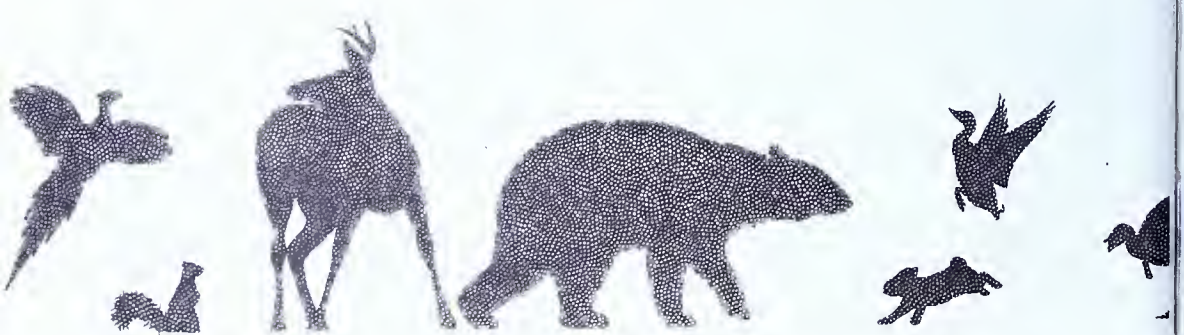
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THE STORY BEHIND THE COVER

TAKE your favorite shotgun and plenty of ammunition, completely hide yourself in blind or brush, set up a stuffed owl decoy about thirty yards out, cry crow with a good caller—man, you never saw shooting so good!

Crow hunting, as Ned Smith so aptly portrays it on this month's cover, is an art all its own. No sport afield offers more challenge to a man's skill, shooting ability, or nervous system. None provides more excitement and surprises. Somebody once said that if men had wings and bore black feathers, few would be smart enough to become crows.

On the other hand, if crows were really smart, they'd leave owls alone. For of all the ways to capture a crow's curiosity, to make him lose his head and risk his life, none is quicker and more fun than to use an owl decoy, preferably of the great horned variety. In his consuming hatred for this silent enemy, a crow will almost always cast caution to the winds. Some say that crows hate and fear owls because an owl can sweep through a helpless crow roost at night and almost decimate it. But during daylight, the big black birds have the advantage and woe be the hapless owl unlucky enough to be caught in the open. At any rate, if you're looking for some fast and furious wing shooting, put out an owl and get set for the black dive-bombers. When corvus comes screaming in, the stuffing is liable to get knocked clean out of your owlish accomplice unless you shoot first.

It's useless to argue about calls. Some hunters claim good calling is everything; other's violently disagree. But don't ever try to beg, borrow or steal a favorite call from a confirmed crow hunter. When he's on crows, the avid devotee of the sport would risk his life for that cherished bit of walnut, plastic and reed.

One thing's sure, however. Crow hunting can provide you with more hunting pleasure than you ever thought imaginable in the outdoors. At the same time, it helps control a serious predator on waterfowl and small game, a thief who steals more than his share of farm crops and a scoundrel who scoffs at civilization. And for the sportsman looking for a chance to improve his shooting skill on other game, crows are made to order. Coming in to call or decoy they will present every angle of acrobatic flight known to the feathered folk plus a few never even dreamed of before.

This is the month to become mad about crows. The black acrobats of the airways have scattered far and wide across the country and are ready, eager and willing to explode on anything that looks like an owl or that sounds like an owl is cornered. So, as said before, take your favorite shotgun and shells get an owl decoy, and . . . oh well, just glance again at this month's fron cover.

PENNSYLVANIA Game News

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Will Johns .....Editor
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PENNSYLVANIA
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Editorial . . .

Signs of the Times

PRIVATE PROPERTY—KEEP OUT, NO TRESPASSING, NO HUNTING—are these to be the signs of our times? Are such warnings and barriers the inevitable result of increasing human populations and decreasing hunting grounds? With the transportation, industrial and agricultural needs of a modern world steadily advancing against wildlife frontiers, each acre lost to public hunting now places tremendous pressure on the land that remains. The chain reaction that follows could lead to the end of free hunting in our country.

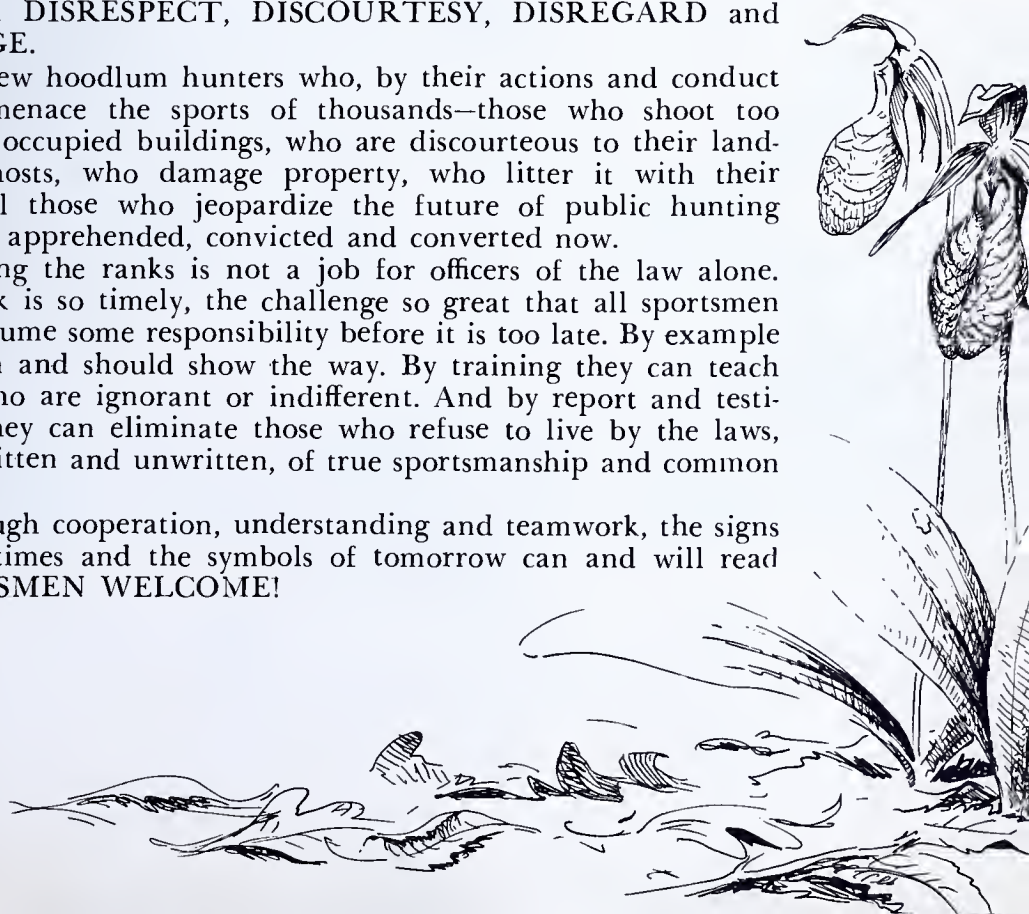
Yet there are many bright signs on hunting horizons—signs that show the sport can be preserved. STATE GAME LANDS, STATE FORESTS, NATIONAL FOREST, COOPERATIVE FARM GAME PROJECT—these stand out as successful testimonials to the tests of our time. Over four and one-half million acres in these public lands, open to hunting, are basic insurance for the future of Keystone State sports afield. Countless additional acreage in private ownership has been saved behind the banners of SAFETY ZONE and HUNTING BY PERMISSION ONLY.

These, however, are not enough. Tomorrow's hunter will need more and more land—acres of private land that may be lost forever unless swift action is taken now. The scourge riding our happy hunting grounds today is not fire, pestilence, disease or war but DISRESPECT, DISCOURTESY, DISREGARD and DAMAGE.

The few hoodlum hunters who, by their actions and conduct afield, menace the sports of thousands—those who shoot too close to occupied buildings, who are discourteous to their landowner hosts, who damage property, who litter it with their trash—all those who jeopardize the future of public hunting must be apprehended, convicted and converted now.

Policing the ranks is not a job for officers of the law alone. The task is so timely, the challenge so great that all sportsmen must assume some responsibility before it is too late. By example they can and should show the way. By training they can teach those who are ignorant or indifferent. And by report and testimony they can eliminate those who refuse to live by the laws, both written and unwritten, of true sportsmanship and common decency.

Through cooperation, understanding and teamwork, the signs of our times and the symbols of tomorrow can and will read SPORTSMEN WELCOME!



Maintaining Public Hunting in Pennsylvania

By John C. Herman
Member, Pennsylvania Game Commission

From a paper presented at the 1955 Northeast Section Wildlife Conference, Atlantic City, New Jersey, March 23-25, 1955.

PENNSYLVANIA is a highly-industrialized and heavily-populated State. Within its borders live over eleven million people. Of the forty-eight States, it has the third highest population but ranks only thirty-second in total area. From the standpoint of wildlife conservation, this gives it a non-enviable population density of almost two hundred fifty persons per square mile. This exceeds the population density of most European countries, is almost twice that of the Republic of China, and nearly as great as that of India.

And in Pennsylvania, over one mil-



lion men, women, and youngsters take to the fields and forests each fall with a gun. Michigan and California have approximately the same number of hunters but Michigan is half again as large as Pennsylvania and California is about three and one-half times as large. Thus, you can readily see that one of the foremost problems confronting the Pennsylvania Game Commission today is providing a place for these one million nimrods to hunt.

The problem, if anything, is becoming increasingly acute. Cities, towns, housing, highways, and other marks of man's civilization have cut deeply into the precious twenty-eight million acres of the Commonwealth. And additional acreage is being lost permanently at a tremendous rate. The famed Pennsylvania Turnpike which cuts across the State from East to West eliminated about ten thousand acres of hunting territory. The proposed extensions will take at least ten thousand more. And yet this Turnpike mileage is insignificant compared to the vast network of highways crisscrossing the State. Altogether, Pennsylvania has over one hundred thousand miles of highways, and, these alone have taken over one-half million acres from the hunter. Rural housing is increasing by leaps and bounds, and each new isolated dwelling removes at least eighteen acres from public hunting under our one hundred fifty yard Safety Zone Law. And the way it looks now, everyone wants to build a home in the country.

Add to this the tremendous acreage of agricultural land and some forest land which is lost to public hunting each year through posting, and the total is staggering. As the sale of hunting licenses goes up and up, an ever-increasing hunting pressure is exerted upon the remaining unposted land. This additional pressure increases the tendency of landowners to close their lands to hunting, and every acre thus lost adds just that much more pressure on the shrinking area still open to the hunter.

Yet, in spite of this limited acreage, high population, and tremendous number of hunters, Pennsylvania is still able to offer its nimrods one of the most diversified game bags and some of the most productive hunting of any State in the Country. It probably harvests more wild turkeys than any other at the present time, and ranks among the top few in the numbers of deer and bears killed. Large numbers of cottontails, squirrels, pheasants, ruffed grouse, waterfowl and other game species are also taken. Pennsylvania's diversified game attracts many thousands of non-residents each year.

In this respect the Pennsylvania Game Commission appears to be fulfilling its obligation to the hunters of the State. However, an even more serious obligation confronts the Commission for the future. This is the all-important function of continuing to provide open hunting territory where these hunters may pursue their sport and enjoy the blessings of this healthful outdoor recreation. With rapidly expanding human populations, this becomes increasingly difficult as more and more pressure is exerted on the dwindling acreage of unposted land. Today the Game Commission has a vigorous program in operation designed to assure the future of public hunting in the State.

Fortunately, Pennsylvania is blessed with three and one-half million acres of publicly-owned lands. This is divided between State Game Lands, State Forests, and National Forests. The Game Commission, after a several-year lull in buying, is again expanding its Land Purchase Program. It is convinced that money spent in this manner now will pay great dividends to future generations.

The Pennsylvania Legislature and



PGC Photo by Cady

STATE GAME LANDS, open to public hunting, now total almost 906,000 acres. Commission plans call for purchase and development of additional acreage in the years ahead.

the Pennsylvania Game Commission showed remarkable foresight in acquiring this land for the people of the State. As early as 1919, the Legislature approved the purchase of Game Lands, and in 1927 it raised the Resident Hunter's License fee from $1.25 to $2.00, and ear-marked the additional $.75 for the purchase and maintenance of new land.

Some States have lost large tracts of hunting lands to the military. Pennsylvania has been fortunate in that respect. Although a few thousand acres are closed to hunting in the Indiantown Gap Military Reservation, the Letterkenny Ordnance Depot lands, and two or three other smaller installations, there have been certain compensatory benefits.

For example, the Pennsylvania Game Commission received as an outright gift over 14,000 acres of the Tobyhanna Military Reservation in Monroe County from the U. S. Government. The Commission was able to buy the 3,000-acre Mt. Gretna National Guard Encampment area at a very reasonable price. Thousands of rabbits have been live-trapped each year on the Letterkenny Ordnance Depot lands and transferred to open hunting grounds, and lesser numbers have been taken from other military areas. Naturally, all lands of this type act as refuges for wild game, and function as a reservoir of breeding stock for surrounding land. There is a possibility that a part of the Indiantown Gap territory would have been opened to public hunting, but this area is an artillery range and the unexploded ammunition would present a real hazard to hunters.

In this vein of thought, the Game Commission has just received over 5,000 acres in Bradford County as a gift from the Soil Conservation Service. Contributions like these have enlarged the total acreage owned by the Commission to a very satisfying degree.

The second major effort to provide space for public hunting is embodied in our Cooperative Farm-Game Program. The Commission is presently

leasing one million acres of privately-owned farm land for the small game hunter. More than ten thousand farm owners and tenants have taken advantage of the mutual benefits provided by the program since its inception in 1936. Today we have one hundred sixty-seven project areas located in forty-nine of our sixty-seven counties. Although the reception of the plan would permit its expansion to perhaps several times its present size, administration costs must be kept within budgetary limits.

There are several important provisions of the plan. So far, we have limited the size of the individual projects to a minimum of one thousand acres and a maximum of twenty thousand acres. An agreement is executed with the owner or lessee by which the hunting rights are made available to the Commission for five years or longer if neither party wishes to cancel the agreement. For these hunting rights the Commission provides Safety Zone signs which are erected at a distance of one hundred fifty yards around the farm buildings. This protection to life and property automatically eliminates one of the major reasons for landowner resistance to hunting.

The owner is permitted to hunt on his own and adjoining farms without a license as he is anywhere else in the State. He can retain control of the furbearer trapping rights if he wishes. He has the privilege of rearing pheasants for the Game Commission. He is furnished day-old chicks and five pounds of starting mash for each chick, and then is paid one dollar for each bird he raises to twelve weeks of age. Last year the cooperators earned over $127,000 through this program. Other benefits include a free subscription to the GAME NEWS; advice on soil conservation and other profitable farm practices by trained personnel; trees, shrubs, and vines for wildlife food and cover and for erosion control, from a Commission-owned and

COOPERATIVE FARM GAME PROJECTS in 49 of the Commonwealths 67 counties have opened a million acres to Pennsylvania sportsmen. Teamwork between Game Commission, private landowners, and sportsmen have spelled success.

PGC Photo by Batcheler





PGC Photo by Johns

NEW WILDLIFE PLANT NURSERY at Howard is owned and operated by the Commission to produce game food and cover plants for Cooperative Farm Game Projects, State Game Lands, and other areas.

operated nursery; and Safety Zone signs to post around unharvested crop fields and cattle pastures. And last, but not least, the project areas are constantly patrolled by Commission representatives to prevent violations of the Game Laws and property damage by hunters.

The Commission's final major effort is intended to keep private lands accessible to the hunter. Something drastic needs to be done to remedy the posting situation. Thirty years ago there were only five hundred thousand hunters in Pennsylvania and they had an estimated twelve million acres of farm land on which to hunt. This has dwindled to about seven million acres for our one million hunters of today. This means that in 1925 there were twenty-four acres of farm land per man but in 1954 only seven.

The Game Commission is attempting to act as mediator, educator, and leader in this fight to retain public hunting as we have known it in the past. To the farmer, it points out the inefficiency of the "No Trespassing" signs. Sure, they keep off perhaps ninety-five per cent of the persons who would normally hunt the land, but unfortunately, these are the men who respect the landowner's rights, the law-abiding citizens, the real sportsmen. The five per cent who hunt anyway, with no regard for the notices, are the vandals, the thieves, and the hoodlums who are responsible for the ill feeling and distrust between the landowner and the hunter in the first place. When the farmer attempts to chase these men off, or have them arrested, he runs into all sorts of unpleasantries. No wonder so many farmers have such a low opinion of sportsmen—they never get to meet any!

Experiments in Missouri and other States have shown that HUNTING BY PERMISSION ONLY signs are more effective than the NO TRESPASSING signs. These were tried by a group of farmers who had been using the conventional signs for several years, and their reaction was very favorable. They reported that trespassing was practically eliminated. Thus, where farmers insist upon posting, the Commission is recommend-

ing this substitution of signs. The Pennsylvania Game Code does not provide for the prosecution of Trespass Law offenders by Game Protectors. However, the Game Code specifically makes it unlawful to shoot within 150 yards of occupied buildings without the permission of the owner or occupant. This phase of the law is rigidly enforced by Game Commission personnel.

To avoid the tedious job of putting up signs, it is also being suggested to the farmers that they post only the Safety Zone area around their buildings with signs furnished by the Commission, and perhaps add a few signs to unharvested grain or other areas which they wish to protect for one reason or another.

And the landowner is urged to solicit a working relationship with the town sportsmen. When he is having crop or livestock damage from crows, woodchucks, foxes, or other destructive animals he should ask for assistance in controlling them. Most hunters, particularly the specialists, would respond quickly to a call for aid. And many times, his sportsmen friends would be willing to help in planting gullies or other waste areas to trees and shrubs both for game and for erosion control. We hope that a working relationship of this kind develops and becomes contagious.

Through television, radio, motion pictures, and the press, the hunter is constantly being impressed with his responsibility to his host and the necessity for closer and more friendly relationships. He is shown how to gain the friendship of the landowner, by driving to his house and asking permission to hunt. He is taught to respect the farmer's property — his

CROP DAMAGE on private farmland can often be reduced to the advantage of all concerned through a working relationship between farmer and sportsmen.



fences, his livestock, and his unharvested crops. He is asked to use common sense in his shooting so that he will not endanger the farmer's family or his animals. It is suggested that he offer to share his game with his host and perhaps to bring some little gift as a token of friendship to the landowner's wife or children after he has become acquainted. And most of all, he is told to check his outdoor etiquette, and paticularly not to be a litterbum.

To summarize, we are attempting to provide space for hunting through our three programs—Land Purchase, Land Lease, and Education.

The first is almost exclusively a function of the Game Commission in judiciously using the hunter's license money. The other two programs cannot succeed without the assistance, understanding, and willing cooperation of the sportsmen. One act of vandalism, or one show of unfriendly disrespect, can undo the good work of several dozen well-meaning hunters. We hope to reduce these unfortunate incidents to a minimum through continued education and law enforcement.

Through these three programs, we sincerely believe we can perpetuate public hunting in Pennsylvania.

STATE GAME LANDS

ACREAGE ACQUIRED YEARLY, COST AND GENERAL AVERAGES

PENNSYLVANIA GAME COMMISSION
LAND UTILIZATION DIVISION
LAND TITLES AND RECORDS SECTION

MAY 31, 1954

Fiscal Year	ACREAGE		CONSIDERATION PAID		Average per acre	
	Conveyed during the year	Total conveyed to end of year	Conveyed during the year	Total to end of the year	Conveyed during the year	Conveyed to end of year
1920-21	23,135.55	23,135.55	$61,379.34	$61,379.34	$2.65	$2.65
1921-22	15,147.66	38,283.21	43,712.68	105,092.02	2.88	2.75
1922-23	5,128.40	43,411.61	10,339.30	115,431.32	2.02	2.66
1923-24	11,780.43	55,192.04	40,251.13	155,682.45	3.42	2.82
1924-25	30,827.23	86,019.27	88,343.47	244,025.92	2.87	2.84
1925-26	.....	86,019.27	.....	244,025.92	....	2.84
1926-27	6,621.35	92,640.62	40,913.10	284,939.02	6.18	3.08
1927-28	9,900.75	102,541.37	39,746.20	324,685.28	4.01	3.17
1928-29	42,865.93	143,407.30	171,493.43	496,178.71	4.00	3.41
1929-30	28,144.10	173,551.40	120,680.53	616,859.24	4.29	3.55
1930-31	69,837.10	243,388.50	266,394.32	883,253.56	3.81	3.62
1931-32	76,753.27	320,141.77	288,008.79	1,171,262.35	3.75	3.66
1932-33	44,630.70	364,772.47	167,195.45*	1,338,457.80	3.75	3.67
1933-34	61,802.30	426,574.77	202,573.37*	1,541,031.17	3.28	3.61
1934-35	38,847.20	465,421.97	133,677.30*	1,674,708.47	3.44	3.60
1935-36	41,984.40	507,406.37	146,660.45*	1,821,368.92	3.49	3.59
1936-37	45,036.85	552,443.22	174,691.95*	1,996,060.87	3.88	3.61
1937-38	30,914.50	583,357.72	147,509.57*	2,143,570.44	4.77	3.67
1938-39	20,187.20	603,544.92	100,521.87*	2,244,092.31	4.98	3.72
1939-40	33,135.96	636,680.88	141,326.47*	2,385,418.78	4.27	3.75
1940-41	25,128.85	661,809.73	133,488.87	2,518,907.65	5.31	3.81
1941-42	38,496.67	700,306.40	185,446.80*	2,704,354.45	4.82	3.86
1942-43	26,738.18	727,044.58	99,554.63	2,803,909.08	3.72	3.85
1943-44	22,953.30	749,997.88	90,647.19*	2,894,556.27	3.95	3.86
1944-45	31,618.40	781,616.28	81,710.73*	2,976,267.00	2.58	3.81
1945-46	37,613.40	819,229.68	83,203.41	3,059,470.41	2.21	3.72
1946-47	22,767.30	841,996.98	95,007.61*	3,154,478.02	4.17	3.74
1947-48	15,599.43	857,596.41	43,018.89	3,197,496.91	2.75	3.73
1948-49	18,607.00	876,203.41	57,056.09	3,254,553.00	3.07	3.71
1949-50	4,234.30	880,437.71	14,460.95	3,269,013.95	3.42	3.72
1950-51	17,426.24	897,863.95	70,458.40	3,339,831.55	4.04	3.72
1951-52	2,500.00	900,363.95	24,899.15	3,364,730.70	9.96	3.74
1952-53	1,815.30	902,179.25	15,510.10	3 380,240.80	8.54	3.75
1953-54	3,564.20	905,743.45	51,186.80	3,431,409.60	18.65	3.70

* These figures do not correspond with Departmental Financial Statements, since certain grantor's settlement checks were issued within the fiscal year, although final settlements were not made until later.

Outdoor Reveries



May-Day Melody

By John H. Day

MY friend, the old 'sang hunter, was breaking up the sun-baked crust on his potato rows when I pulled into his cabin yard far in the hill country. He laid aside his hoe and went with me to visit his spring, where a crystal pool lies deep and cold beneath the roots of a huge water elm. As we drank that sweet, delicious countryman's brew, a wood thrush fluted farther up the glen and a Carolina wren made the welkin ring with May-day melody. Time stands still by this woodland spring. Chipmunks may scramble about and dislodge bits of bark onto the limpid pool, and the big-eyed deer mouse may stop by to quench his thirst, but little else disturbs the placid serenity of this lovely place.

We sprawled in the warming sunlight while towering thunder heads tramped ponderously across the sky. Somewhere near by there was rain, and we waited until the path of the shower was projected before starting on a tour of the five-mile valley which traverses this enchanted, countryside. Birdsong rolled across the hills, greeting the newly-arrived May with a magnificent choral welcome.

The bottomlands edging this stream were colorful with May blossom. Great drifts of the fragile blue-eyed Mary, one of the loveliest of the May blooms, ran riot over many acres. Wild geranium was in full flower, and the phlox which country people call Sweet William. Redbud had passed its prime, but the hillsides harbored clumps of pawpaw showing their odd brownish flowers, and an occasional colony of wild plum dazzling in its dress of frothy white.

An old familiar alarm note halted us by a bridge, and we watched in delight while a scarlet tanager moved like a glowing coal through one of his favorite oaks. Later we saw another of the gorgeous creatures, and heard their husky alto warbling in the trees all day.

We left the car by another bridge and followed the trace of a jeep far back into one of the hollows which branch off the main valley. A blue-



winged warbler sat in plain sight in a sapling and buzzed at us as we passed by. Kentucky warblers and Maryland yellow-throats were singing, and high in the trees a cerulean warbler sang while he foraged. Dogwood blossoms to right and left made a sort of bridal path for us to follow.

Deep in the hollow we came to the gossipy brook which inhabits this inviting glen. We followed the brook up through the rocky defile until we came to a tiny waterfall, where the free water tumbles some eighteen feet in a noisy drop across a sheer rock ledge. Here in the loam were blooming the little bishop's cap and the false mitrewort, and here, a week or two earlier, had been a magnificent display of the red variety of the erect trillium. Next spring I'll have to take in this trillium show.

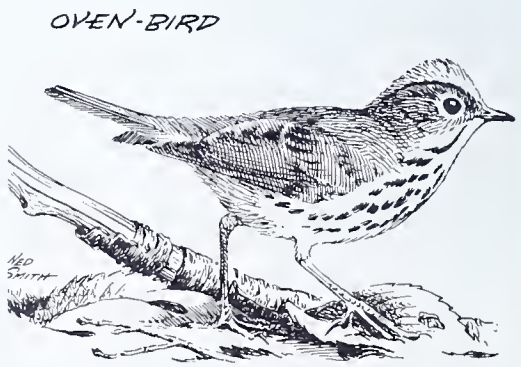
As we neared the head of the valley the scent of wild crabapple halted all progress and pulled us blindly across the creek. Where the wild crabapple leads in apple blossom time the addicted countryman follows. Regardless of the fact that we were wet to the knees we trailed that alluring aroma, too far gone to be helped in our addiction by Crabapples Anonymous.

Up the hill the fragrance led us, growing headier by the minute, until we finally stood is the midst of the grove, lost in the intoxicating delight of the sweetest aroma this side of heaven. Surely theElysiam fields must be lined with groves of wild crabapple. We wallowed around in a drunken perfumed stupor, completely befuddled.

May day means many things across the world, but to the countryman it means his annual wild crabapple binge. And the hangover is really not too bad.

Each year the Gooselookers trek to the famed Pymatuning swamp in May. This unique organization, if such it can be called, since there are no dues, nor no regularly elected officers, gathers at the honk of the Head Gander. All such calls are signed by the Quill. From all walks of life and from all points of the compass come the "lookers," bound together by one common tie—a tremendous love for wild places and the little wildlings who dwell in these remote, unspoiled areas. When occasion offers, they look at geese. and they have plenty of relaxing fun looking at everything else that flies, or runs, or crawls, or blooms along their meandering trails.

The Pymatuning area is a fascinating place. Even though recent flooding has submerged much of the original bog, here can be seen water-



fowl in infinite variety and many of the little feathered clans. Persistent search will bring a rewarding view of some of the rarer orchids and other interesting bog dwellers.

Many of the warblers were going through during our weekend visit. We were not favored by too much sunshine, but the little fellows were out in force, feeding actively through the treetops. I heard the familiar lazy singing of the black-throated green warbler. Oven birds shouted "teacher! teacher!" in the woods. The Blackburnian flashed his flaming orange throat, like a tiny neon light coursing through the thickets.

The song of the yellow-throat, who loves the marshy edgings, could be heard everywhere. I spent most of my time cultivating the acquaintance of the blue-winged warbler, a rather plain colored migrant with a most distinctive buzzing song. The only way to really learn to know these confusing travelers is to pick one out, identify him beyond doubt, and then stay with him all day, until his song and field marks are permanently fixed in memory.

The rose-breasted grosbeak and the scarlet tanager sing much like the robins of our dooryards. Actually they are both better songsters than the redbreast. A grosback favored me with an early morning serenade, singing beautifully in the top of an aspen, while yellow warblers swarmed all around, and an occasional great blue heron flapped slowly across enroute to his feeding grounds.

That afternoon I stood in some open woodland and listened to a tanager pour out his heart, his flaming scarlet vivid in a young red oak. His music is more leisurely and refined than the robin's. After I had listened to this brilliant fellow for a while, I began to feel that the robin is more of a shouting huckster than a soloist.

The least flycatcher was feeding through the trees, and apparently


ROSE-BREASTED GROSBEAK

planning to nest, for from time to time he ejaculated his name "chebek!" This was a new bird note to me, although I hear his first cousin, the Acadian flycatcher, all summer long in the deep woods of my home bailiwick. Other colorful birds seen that afternoon included a purple finch on a phone wire and a red headed woodpecker on a pole by the roadside.

We were a week or so too early to find the pink lady's slipper in full flower. Several clumps were just setting bud. In one shaded, swampy nook we found the yellow lady's slipper in gorgeous flower, surrounded by the green herbage of skunk cabbage and hellebore, and the blooms of the marsh violet and the false mitrewort. Botanists in our group were quite excited over discovery of a hidden station of one of the rarer coral-root orchids.

Of all the feathered residents of the Pymatuning country, from bald eagle to brown creeper, the countryman loves best the cheery bobolink. Here in broad grassy meadows adjacent to the bog areas the madcap minstrel poses and performs in the spring sunshine. The white-throated sparrow's music from the hemlocks may be sweeter, but the bobolink's barnstorming wins all hearts.

Conservation Farm

By Luther B. Hoffman



IF you are looking for conservation in action, take a long look at the Sam Costenbader farm in Monroe, Pennsylvania. It typifies what can be accomplished through farmer-sportsman cooperation and teamwork. Warren Creitz, Palmerton conservationist-sportsman, and farmer Costenbader have turned this average farm into a fine game land by raising a 1½ acre stand of bicolor lespedeza, long rows of multiflora rose, and many more rich, seed-producing perennials.

The purpose the two men had in planting lespedeza was two-fold. The proposed planting site along a hillside had been long neglected, the only vegetation in evidence being a scattering of wire grass. Erosion was well advanced and something had to be done to hold the soil in place. The two men were therefore interested in soil conservation as well as wildlife conservation.

The ground was plowed and harrowed after which pulverized limestone was drilled in at the rate of two tons to the acre. Later a "0-20-0" fertilizer was added at the rate of 500 pounds per acre. Finally, bicolor lespedeza seed was sown at the rate of 8 quarts to the acre. The work was done in the early, wet spring of 1954 and showed remarkable success. Another acre and a half strip is planned for planting this year.

Lespedeza develops a vigorous root structure that stops erosion and has the capacity of retaining soil moisture for extended dry periods. It has a tender and abundant leaf foliage that remains green until late fall.

The seed develops high on the stem and provides a rich winter forage. When sown in soil of average fertility, the lime and fertilizer can be safely omitted for the seed germinates easily

and once rooted, thrives under punishment.

A fifty feet wide stand of Northern Pine extending from the edge of the forest to the brook provides a corridor of cover for the timid animals seeking water. It is so arranged that they will find food—plenty of it. The marshy area along both sides of the brook abounds in Chicken Grape, American Elderberry and Wild Crabapple. Everything is allowed to grow in absolute profusion with the idea in mind that the wild game has a right to privacy when watering.

The multiflora rose hedge could have been planted in this low ground with assured success, but because of it's excellent soil-retaining characteristics, was planted along a steep part of the hillside.

In addition to the trees and shrubs, a small stand of corn was planted and left to stand through the winter. By experiment it was found that sweet corn is better able to withstand the ravages of snow and rain and makes a good deep-snow survival store.

Under these favorable conditions game has a chance to flourish and replenish the inroads left by the open seasons.

Recently farmed land lends itself readily to growing the perennial food and cover crops upon which upland game thrives, but it should be remembered that perennials survive the winter mainly because of their strong root structure. So it follows naturally that planting must be done early in the growing season to assure well developed roots for survival of the first winter.

No part of this experimental farm is posted, and to compensate for this generous policy, dog training on the premises is allowed and encouraged. This way the bird and the bunny get

FIR PLANTING not only provides gully erosion control but also makes an excellent wildlife travel lane.

Photo by the Author





Photo by the Author

RICH GROWTH of bicolor lespedeza remains green until late fall, provides excellent winter food for wildlife.

some pre-season training on self-preservation.

Small farms or sections—abandoned because of unprofitable conditions, or for any other reason for that matter, make ideal game areas. At this time Mr. Creitz has two Carbon County farms in the planning stage for a similar conservation program. The owners having already consented to provide all the necessary tools and equipment plus any soil additives that may be needed.

WEATHER OR NOT

Be your own forecaster: It's sure to be cold if pigs grunt uneasily or huddle; caterpillars have broad bands; there are plenty of comets; geese fly late at night; and you forget to take along a heavy coat.

Look for fair weather if crows fly in pairs; cats wash behind their ears; the sunset glows red; birds fly high and you take along a raincoat.

Expect snow if turkeys refuse to come down from trees; cats sit with their backs to the fire; burning wood pops loudly; and your back aches.

Get out the storm signals if foxes bark at night; seagulls sit on sand; hair of redheads turns kinky; and your corns hurt.

And consult your local weather bureau forecast!



Pheasants Are Fun

By Don Shiner

PENNSYLVANIA Sportsmen, as well as conservationists everywhere, have watched with interest and pride the remarkable progress made in the past ten years through a unique pheasant rearing project sponsored by the Pennsylvania Game Commission. Starting in 1945, the Commission enlisted the support and help of sportsmen's clubs throughout the State in the raising of ringneck pheasants for release on open hunting land. During the past three years alone, more than 700,000 pheasant chicks started out in this cooperative effort. Pennsylvania's Day-old Pheasant Chick program has been a success, predicated largely on the ability and skill of the many little sportsmen's clubs scattered throughout the state to raise the day-old chicks hatched on State Game Farms.

Typical of the clubs who have joined the Game Commission in this pheasant project is the Berwick Hunting and Fishing Association serving a portion of Columbia County. With an active membership well over the hundred mark, the club members have donated their time, labor and money to build a pheasant rearing pen and care for the chicks received from the game farms. Their efforts have paid off in mature ringnecks, some 250 birds annually, which are released on nearby farms. The effort has not only increased the hunting potential for area sportsmen but has created good will among the farmers as well.

BERWICK HUNTING & FISHING ASSOCIATION is typical of small sportsmen's clubs all over Pennsylvania. Long list of accomplishments is headed by this pheasant rearing project.



The Berwick club had its beginnings towards the close of World War II when a handful of older sportsmen gathered to decide how they might improve hunting and fishing conditions for the boys soon to be coming home. Discussing objectives, finances and bylaws, that first meeting led to regular monthly meetings in the local firehall. Like other clubs, it also led to such activities as stocking trout and bass in local streams, feeding wildlife during deep snows, distributing posters to discourage folks from becoming litterbugs, and a long list of other projects aimed at improving and preserving the natural resources and outdoor heritage of their area.

PHEASANT PEN measuring 50 by 200 feet was wired in work-bee style. Standard 2-inch chicken wire was used on sides and top, one-inch mesh wire at bottom to prevent young peeps from escaping.

BROODER HOUSE AND PEN gets finishing touches from club members. Most of the lumber was salvaged from old, abandoned barn.

DAY-OLD PHEASANT CHICKS were center of attraction to many visitors. Gas operated brooder kept room at even temperature, absolutely necessary when birds are young.



PHEASANTS IN FISHING NET were crated by the dozen for members to take to selected liberation sites. Now 12 weeks old, birds were released on land open to public hunting. At the selected sites, the farmers were invited to help in the release. The fun experienced by these sportsmen in raising ringnecks from day-old chicks to mature birds was well worth the effort of building brooder house, and pen and the care necessary to keep them alive and healthy.



PUBLIC INTEREST in pheasant project was maintained from start to finish. Club officials held dedication ceremonies at pheasant farm as soon as chicks arrived, invited burgess of Berwick to make dedication speech.

PHEASANT EYES FREEDOM after 12 weeks of artificial living, will make a fine game bird with top sporting qualities soon after liberation. Thousands of Pennsylvania's most popular game birds have been produced in popular Game Commission sponsored program.



HAND ME DOWN MY WALKING CANE

BY CARSTEN AHRENS





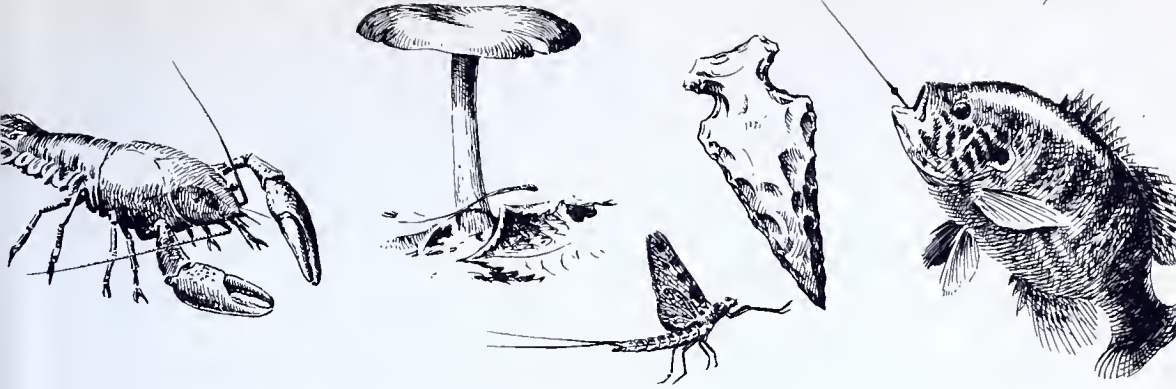
IN this article I'm going to be hopelessly outnumbered, but above the roar of racing motors, the shrieking of brakes, the beeping of horns . . . maybe, while the traffic light is changing . . . I'd like to wave my walking cane!

You can't go on as you are much longer. Your family cannot. The pressures of modern living are just more than a person can endure without a respite now and then. Oh, you can try, but any one of a number of things may happen.

You may become a mechanical thing, sort of a robot, certainly not a human being . . . not a dad! I had a boss once who was one. He died early.

Or you may go haywire. Lots of people do. If you're a taxpayer over in Pennsylvania, you are paying out 45 million dollars a year to care for mentally disturbed Keystoners.

You can get a kind of escape by becoming an alcoholic. Oodles of Americans are, but it's expensive, and tough on the family. There are more alcoholics in the United States than in all the rest of North and South America; we like to be first in everything. There are other minor ways of competing with pressures, like drug addiction, but accurate statis-



tics about them are difficult to come by.

In my own case, the pressures are much like yours probably. The boss wants more accomplished than I have time, ability, strength, and inclination to perform. The organizations with which I have somehow become entangled demand too much of my time and money. There are endless meetings of committees and sub-committees, often frustrating affairs because the somebodies who head them are using them just to aid them get rid of their own pressures. Just the action of getting to my job or home afterward . . . plunging into the maelstrom of traffic is a defeating experience. Every so often I have to get away from the sound of traffic noises, the smells of exhaust, the taste of traffic dust and oil, the feel of that fender grazing mine, and the sight of the two cars that didn't quite pass each other and their ghastly, tossed-about freight.

At about this stage of the game, I get on my walking shoes. As far as I'm concerned, man has perfected no invention that takes the place of just ordinary walking. He has made all sorts of machines that will get him from A to B in a startlingly short time . . . he's travelling faster than sound . . . but although he's the winner, he's no wiser for the feat; he's just there first. The maniac of speed is no less dangerous than the clepto—or the pyromaniac.

Now, when you walk, you may be a while getting from A to B, but you haven't been moving through a blur. You have had a chance to see and smell and touch and taste and feel the stuff of which Nature is made. You needn't be in far-off, romantic places; Nature is everywhere. Unless your world is covered with concrete . . . and some people's worlds are . . . you can find a wilderness area for yourself. A walk in a woodland is an action that rests parts of you that need rest, and invigorates and stimulates other parts that have been dullened by too much civilization. You might even learn something.

Now some folks walk just for walking's sake. They consider only lifting one foot and putting the other down. Take an ocean trip and you'll find folks who know the distance from one end of the deck to the other, and they vie with their acquaintances on the number of miles they total each day. Rain or shine, they walk the deck, greeting each other with something like . . . "When I get to Hydrant #14, I shall have walked 8 miles today!" A sunset has to knock them over or they don't see it. They see no porpoises, terns, gulls, Mother Carey's chickens; even whales aren't large enough for them. The curling grey-green combers are just so much waste matter as far as they are concerned. They don't know waves exist unless they become too rough and interfere with their appetites and their reducing exercises.

Ever since our four vikings were little shavers we have enjoyed going afoot. It's wise to start them young,

before they've become conditioned by speed. We started early. Jon was our one and only then, and he rode in a basket on his father's back . . . sort of like a papoose in a hickey. And when the other three vikings came along, we went right on hiking.

We have encouraged them to develop collecting games that walks make possible. We take nets and see how many different Orders of insects we can collect on a trip, or we concentrate on some one Order, maybe beetles, and see how many different species our walk will bring. Mother carries our insect books and aids in identification. Or we look for arrowheads, fossils, rocks, leaves, flowers, clouds, trees and shrubs, invertibrates, ferns, mosses and liverworts, etc., etc.

No matter what the main objective of our hike is, each of the vikings keeps one eye open for his speciality. Lindy is always ready for a different rock or fossil. Leif watches for birds and bird nests. Karin is ready to sketch, and Jon to photograph, anything that they consider unique. I often carry my net and cyanid jar. My wife usually carries jackets, or first aid kit, "guides," or snacks to eat along the way.



Often we collect more tummy-satisfying things. Nature is often profligate in her bounties. We take pails and go for wild raspberries, blackberries, dewberries, elder berries, and most exquisite of all, wild strawberries, and afterward there are pies, and muffins, and tarts, or just plain berries with cream and sugar as sort of a bonus. As Leif said after a berrying: "All that fun and shortcake too!" Some of the fruit is made into jams and jellies, and months later, when winter winds whine, we open jars of canned sunshine. Then the trips and experiences of the summer before, perhaps a particular expedition, are relived. "Do you remember when we picked these black raspberries we saw that bear at the upper end of the patch?"

Sometimes we take a shovel and a pail, dig clams at low tide, and have a clam bake using hot rocks and sea weeds. Sometimes we take fish poles and have a fish fry shortly after the perch or "sunnies" leave the pond . . . if we're lucky.

But the most satisfying phase of walking trips are the experiences one files away in memory that one lives over and over again as the years pass. Some impressions are indelible, and years after, although dad is gone, dad will never be forgotten. Memories etched in God's out-of-doors are usually good memories. The five senses are five doorways through which we receive the makings of memories. On walks one goes slowly enough to give all the senses a normal chance to function and the cerebrum an opportunity to record.

Even as I write, outdoor memories come thronging through my mind. I hear the tart, heart-satisfying whistle of a cardinal when winter turns the final bend before spring; the red-eyed vireo's endless questioning that might be tiresome if the empty,

drowsy, summer afternoon had another soul with whom I might converse; the unearthly chant of wild geese swinging overhead through an autumn twilight; the sleepy, early-evening murmurings of roosting chickens; the noisy dawn-waking arguments of many ducks; the self-satisfied chatter of a tiny stream; the misty murmur of a distant waterfall; the slap-lap-lap of wavelets against the boat when the tide turns to come in; human voices harmonizing across a lake; the amiable creak of a mossy mill wheel; the brittle, dry, rasping rustle of dragonfly wings, or the cackle-crackle of an outdoor fire that has its appetite fed with pine boughs.

Scenes from long ago trips come back. I remember an ecstatic black-winged goldfinch singing and swaying on a weed above its reflection in a quiet woodland pool; the sheen on the neck feathers of purple grackles: the greedy grace of a hummingbird at a honeysuckle flower; the strength and beauty of a tern breasting a storm; the unexpectedness of thousands of monarch butterflies in ruddy migratory flight; the tiny gaiety of red-cap lichens; the unfurling fiddlenecks of ferns; the elm boughs in Gothic arches, black against the sky; heavy surf in the moonlight along the Maine coast, and early mornings when fingers of sunlight reach long and slanting through a misty pine forest.

The scents and tastes of certain things, once experienced, are never forgotten. I remember the smells of young springs . . . especially springs in a swamp; the odors carried by wind across farm lands; newly plowed fields, fertilized fields, newly mowed hay meadows, blossoming apple orchards; the smell of the ocean at low tide, especially after I have been away a long time; the cascade of perfume from many flowers of one species: white clematis, lilacs, locust, or lily-of-the-valley; the odor of baskets

Myrtle Warbler



of mellowing fruit: ripe apples, strawberries, muskmellons, apricots; certain fruits picked in the heat of the day: tomatoes, sun-ripened on the vine, gold or red-cheeked peaches, and sun-baked blue berries on a mountain's shoulder; a pine forest on a wet day; after a long hike, water from a shady spring along with a crisp, cool geranium-leaf sandwich; the smells that accompany the preparation of supper out-of-doors take on a stature out of proportion to their importance: simple odors of boiling coffee, sizzling bacon with steak or trout, frying potatoes and onions . . . such really stimulate the digestive glands after a long day in the open.

And finally I like the feel of things. I wouldn't shake hands wearing gloves. I want to know the touch of a friend's hearty handclasp. And I take off my gloves, and often my shoes and socks, when I meet Nature. One can learn a lot through one's skin: the texture of barks, the contour of twigs, the weights of galena and tuffa; the smoothness of ocean-rounded stones; the silkiness of spirogyra; the sudden stir of the trigger of the touch-me-not, the fuzzy brush of foxtail grass; the luxuriousness of the

feel of sphagnum moss or spongilla underfoot, or of sand sifting between your toes.

Some of our best hikes have been with rangers in our national parks. We have been up Snow Creek Trail in Yosemite, the Bright Angel Trail on the North Rim, and the Champlain Trail in Acadia. The rangers are well informed about the natural history in their region and they know how to make it interesting. We wish them success in their attempt to keep our wilderness areas just that.

But it isn't necessary to go so far away. We've had some good walks in our own state parks, our own city parks, and on farm lands adjacent to our city.

But start early. You'll get to know your own children better than if you keep your nose to the grindstone every minute. More important than the job, those committees, your commitments, is giving that youngster of yours a good start. He has a right to know you and love you. Don't pack him off to a camp and expect somebody else to do your job. It's really much more important than leaving him a fat bank account. Answer his questions and answer them straight. If you don't know the answers, admit it, and look them up. A walk away from the countless distractions of modern city living gives you a chance to get acquainted with each other as well as with Nature. Try it; the second or third walk will be more and more successful. And the gain isn't going to be all Junior's; you'll gain perspective too, and feel better when you're back in the whirl of things again.

Recently I saw a movie that took us by air from one end of Europe to the other, and across the U. S. A. from North to South, and from East to West. It was all very wonderful, and we covered thousands of miles in less than two hours. From a tilting plane we saw Niagara Falls, the Grand Canyon, and miles and miles of wheat land, dairy land, prairie land.

But we heard no bird songs. We saw forest masses but never a tree. We saw no "flower in a crannied wall." To see life steady and whole, we must have "close ups" and we have to put on our walking shoes for that.

THE ALLEGHENY RIVER

Unique among the rivers of America, the Allegheny covers a mere 135 miles, as the crow flies, from its source to its mouth. Yet so meandering is its course, the actual shoreline is more than 325 miles in length.

Recently, the Emlenton Chamber of Commerce issued a booklet and maps containing a wealth of information on the famous Allegheny, much of it taken from an 1855 publication, "The Allegheny Pilot," which has long been out of print. The new publication will be most useful and interesting to fishermen, vacationists and tourists who use the River as well as to residents of the Allegheny Valley. The idea started with a group of Emlenton businessmen who, in sponsoring a boys' organization, conceived the idea of selling a detailed map of the Allegheny from East Brady to Warren and accompanying the maps with free copies of the booklet. Money derived from the project goes to outfit the boys' organization with outdoor equipment. The book and map sells for $1.00 and may be obtaining by writing the Emlenton Chamber of Commerce, Emlenton, Pa.

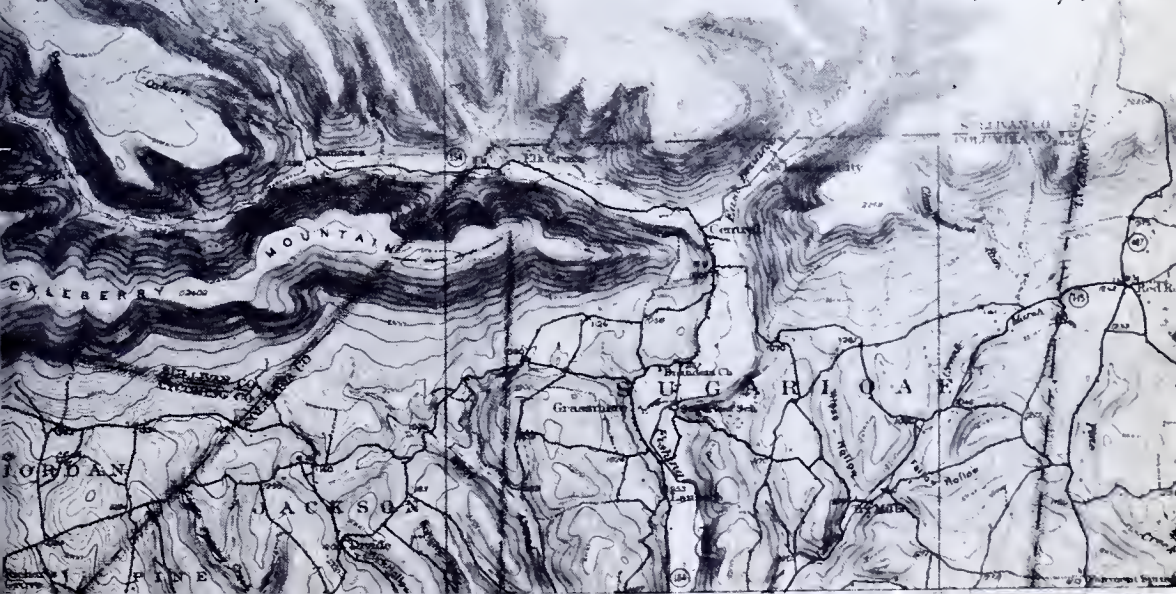
Hunting by the Map

By Tom Forbes

IN the Allegheny National Forest the United States Forest Service is confronted with the problem of supporting an unbalanced sex ratio in the deer herd on an overbrowsed range. Under an archaic buck law only a distressingly small percentage of the deer population contained within the boundaries of the forest is legally huntable and the big management problem still centers around an inadequate harvest of the deer. Poor hunter distribution, which results in a large concentration of hunters in some areas and too few in others, is also a serious problem wherever deer hunters take to the woods. On the Allegheny National Forest, despite relatively flat topography, an adequate road system, and miles of pipe line and power line rights-of-ways to hike over, hunters tend to remain near the highways and seldom venture into the back country. As a result, the harvest of deer is not uniform throughout the forest.

Unfamiliar terrain and oft told tales of "lost" hunters makes the average hunter wary of losing sight of the highway and his parked car, or leaving the valley in which his camp is located. Few hunters have taken the time or made any effort to learn to use a compass and to read a topographic map. I can recall only one instance where a topographic map of the locality was hanging on the wall of the hunting lodge. An overlay marking several blazed trails had been drawn on the map. The visitor who studied the map and confined his route to the blazed trail could travel through the woods with confidence. It is entirely possible to sit comfortably at home and lay out a day's hunt in the deer range on a United States Geological Survey topographic map, just as you plan your automobile route on the highway map or locate a definite place in a city or town by use of a street map. With a little practice, you can look at a topographic map and visualize the hills, and valleys, the streams, and road system of the area in which you intend to hunt.

Features represented on a topographic map are of three different kinds: (1) inequalities of the earth's surface called "relief," as hills, valleys,



plains, plateaus, and mountains; (2) distribution of water, called "drainage," as streams, lakes, and swamps; and (3) the works of man, called "culture," as roads, railroads, utility lines, boundaries, houses, villages, and cities.

The topographic map of the United States is published in sheets 20 by 16½ inches. The map occupies about 17½ inches in height and 11½ to 16 inches of width, the latter dimension varying with the latitude. The four cornered division of land shown on a single sheet is called a "quadrangle" and it covers 15 minutes of latitude by 15 minutes of longitude on a "scale" of 1:62500. Scale is defined as the relation between distance in nature and corresponding distance on a map. Since there are 63,360 inches in one mile, the scale of 1:62500, or as it is frequently written as a fraction $\frac{1}{62500}$, represents approximately 1 mile on the ground to one inch on the map. Thus a square of the map surface measuring 1 inch on each side represents about 1 square mile of the earth's surface, and a single quadrangle can depict an area of approximately 230 square miles of the territory in which you plan to hunt. These sheets, being only parts of one great map of the United States, disregard political boundary lines, such as those of States, counties, and townships. To each sheet, and to the quadrangle it represents, is given the name of some well known town or natural feature within its limits, and at the sides and corners of each sheet the names of adjacent sheets, if published, are printed. The scale of 1:62500 is used for the thickly settled or industrially important parts of the United States. For the greater part of the country an intermediate scale of about two miles to the inch is employed. A third and still smaller scale of about four miles to the inch; i.e., 1:250000 has been used in the desert regions of the far West.

Culture on the map is shown by conventional signs, and these man-made works are illustrated on the side margin or back of the individual sheet. On the map, culture is shown in black, in which color all lettering also is printed. Boundaries, such as State, county, city, reservation, etc. are shown by broken lines of different weights. Cities are represented by black blocks, representing the built-up portions, and country houses by small black squares. Roads are shown by fine double lines (full for the better roads, dotted for the inferior ones), trails by single dotted lines, and railroads by full black lines with cross lines.

All water features are shown in blue, the smaller streams and canals in full blue lines, and the larger streams, lakes, and the sea by blue water-lining. Certain streams, however, which flow during only a part of the year, their beds being dry at other times, are shown, not by full lines, but by lines of dots and dashes. Ponds which are dry for a part of the year are shown by oblique parallel lines. Salt water marshes are shown by horizontal ruling interspersed with tufts of blue, and fresh-water marshes and swamps by blue tufts with broken horizontal lines.

Relief is shown by contour lines in brown. Each contour passes through points which have the same altitude. One who follows a contour on the ground will go neither uphill or downhill, but on the level. By the use of contours not only are the shapes of the plains, hills and mountains shown, but also the elevations. The line of the seacoast itself is a contour line, the datum or zero of elevation being mean sea level. The contour line at, say, 20 feet above sea level is the line that would be the sea coast if the sea were to rise or the land were to sink 20 feet. Such a line runs back up the



ANY COUNTRY APPEARS DIFFERENT when you're looking back, seeing it from a new angle. This scene from the film "Lost Hunter" currently being shown by the Game Commission typifies the problems of some men who fail to hunt by the map and compass.

valleys and forward around the points of hills and spurs. On a gentle slope this contour line is far from the present coast line, while on a steep slope it is near it. Thus a succession of these contour lines far apart on the map indicates a gentle slope; if close together, a steep slope; and if the contours run together in one line, as if each were vertically under the one above it, they indicate a cliff. In many parts of the country are depressions or hollows with no outlets. The contours of course surround these, just as they surround hills. These small hollows known as "sinks" are usually indicated by "hachures," or short dashes, on the inside of the curve. The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval varies from quadrangle to quadrangle according to the character of the area mapped. In a flat country it may be as small as 10 feet; in a mountainous country it may be 200 feet. Certain contours, usually every fifth one, are accompanied by figures stating the elevation in feet above sea level. The heights of many definite points, such as road corners, railroad crossings, railroad stations, summits, water surfaces, triangulation stations, are also given. The figures in each case are placed close to the point to which they apply. At the bottom of each map sheet the scale of the map is expressed in three ways; by a graduated line representing miles and parts of miles in inches, by a similar line indicating distance in the metric system, which is the system of measurement used by the French, and by a numerical fraction which has previously been explained.

The manner in which contours express elevation, form, and grade is shown in the following sketch and corresponding contour map, Figure 34. If we can grasp the significance of these contour lines the physical aspects of the terrain in an unexplored section of our hunting territory will appear familiar to us after we have made a close study of the topographic map. The sketch represents a river valley between two hills as we would see it from an airplane approaching the coast line from the sea. In the foreground is the sea, with a bay which is partly closed by a hooked

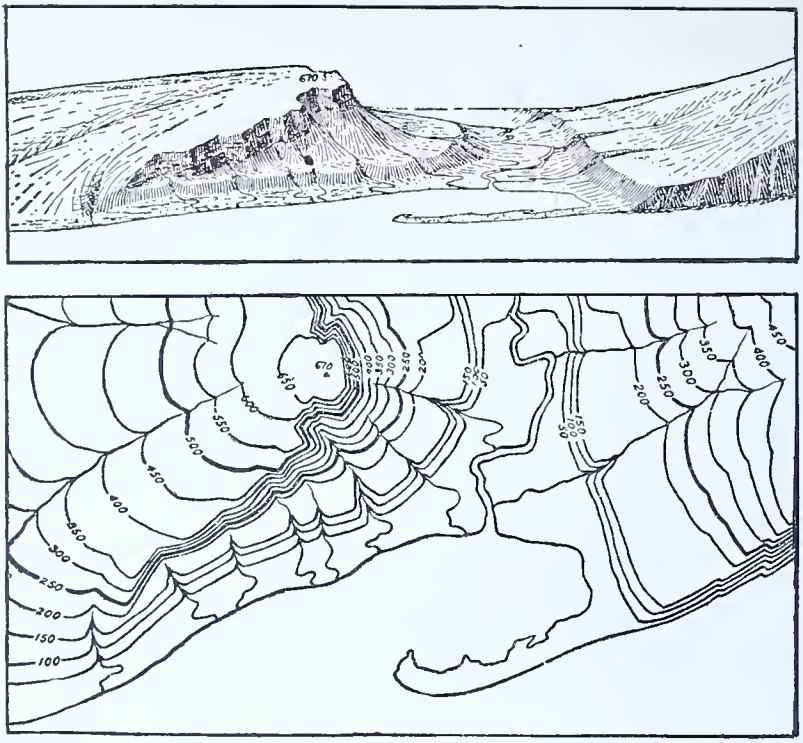


Fig. 34 Aerial View and corresponding topographic map section.

sand bar. On each side of the valley is a terrace. From the terrace on the right a hill rises gradually, while from that on the left the ground ascends steeply, forming a precipice. Contrasted with this precipice is the gentle slope from its top toward the left. In the map each of these features is indicated, directly beneath its position in the sketch, by contours. The following explanation may make clearer the manner in which these contours trace out elevation, form, and grade: A contour we have learned indicates a certain height above sea level. In the illustration the contour interval, which is the vertical distance between adjoining contours, is shown as 50 feet; therefore the contours are drawn at 50, 100, 150, and 200 feet, and so on, above mean sea level. In the space between any two contours are found elevations above the lower and below the higher contour. Thus the contour at 150 feet falls just below the edge of the terrace, while that at 200 lies above the terrace; therefore all points on the terrace, the portion of the land mass designated (a) in the sketch, are shown to be more than 150 but less than 200 feet above the sea. The summit of the higher hill is marked as 670 feet above the sea; accordingly it is surrounded by the 650 foot contour.

Topographic maps may be obtained on application to the Director, United States Geological Survey, Washington, D. C. A circular showing the area covered by each of the quadrangle sheets for any given State is distributed free and may be had upon request. With this circular you can select those quadrangle sheets which are of particular interest to you. If you are in doubt as to your ability to read one of these topographic quadrangles and are intimately acquainted with particular portions of the territory in which you hunt; I strongly suggest that you procure the quadrangle sheet of that particular area and apply the principles explained in this text to a careful study of that particular area. Next season, instead of wondering what lies on the other side of the ridge, take a look at your topographic map and if the area appeals to you it can be hunted safely through the knowledge you have obtained from your topographic map.

A Sportsman's Guide To . . . .

Luzerne County

Forty-ninth in a Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Luzerne County covers 577,088 acres of which 395,015 acres are forested. Publicly owned land totals 38,678 acres, including 31,990 acres in State Game Lands.

Transportation

Railroad transportation is furnished by the Delaware, Lackawanna & Western, the Lehigh Valley, the Central Railroad of New Jersey, the Pennsylvania, the Delaware & Hudson, the Erie, and by interurban electric railways. Luzerne County is traversed by U. S. Route 11, U. S. Route 309, Pennsylvania Route 115, and Pennsylvania Route 29. The county has 772 miles of improved State highways.

District Game Protectors

District Game Protector John C. Behel, 76 Wyoming Street, Wilkes-Barre (Phone: Wilkes-Barre VAlley 2-9724) is assigned to the following townships: Newport, Slocum, Hanover, Bear Creek, Buck, Jenkin and Pittston.

District Game Protector George A. Dieffenderfer, 41 Dorrance Avenue, Wyoming (Phone: 581) is assigned to the following townships: Fairmount, Huntingdon, Salem, Union, Ross, Lake, Plymouth, Jackson, Lehman, Unlock, Kingston, Exeter, Franklin, and Dallas.

District Game Protector Norman J. Forche, c/o O'Gara's Inn, Conyngham (Phone: 8-3551) is assigned to the following townships: Nescopeck, Conyngham, Hollenback, Black Creek, Sugar Loaf, Butler, Dorrance, Rice, Wright, Fairview, Dennison, Foster, and Hazle.

The Pennsylvania Game Commission's Northeast Division Headquarters is located at 987 Wyoming Avenue, Forty Fort (Phone: Kingston 7-6193), Carl C. Stainbrook, Supervisor.

Fish Warden

Fish Warden John I. Buck, Box 18, Sweet Valley, is assigned to Luzerne County by the Pennsylvania Fish Commission.

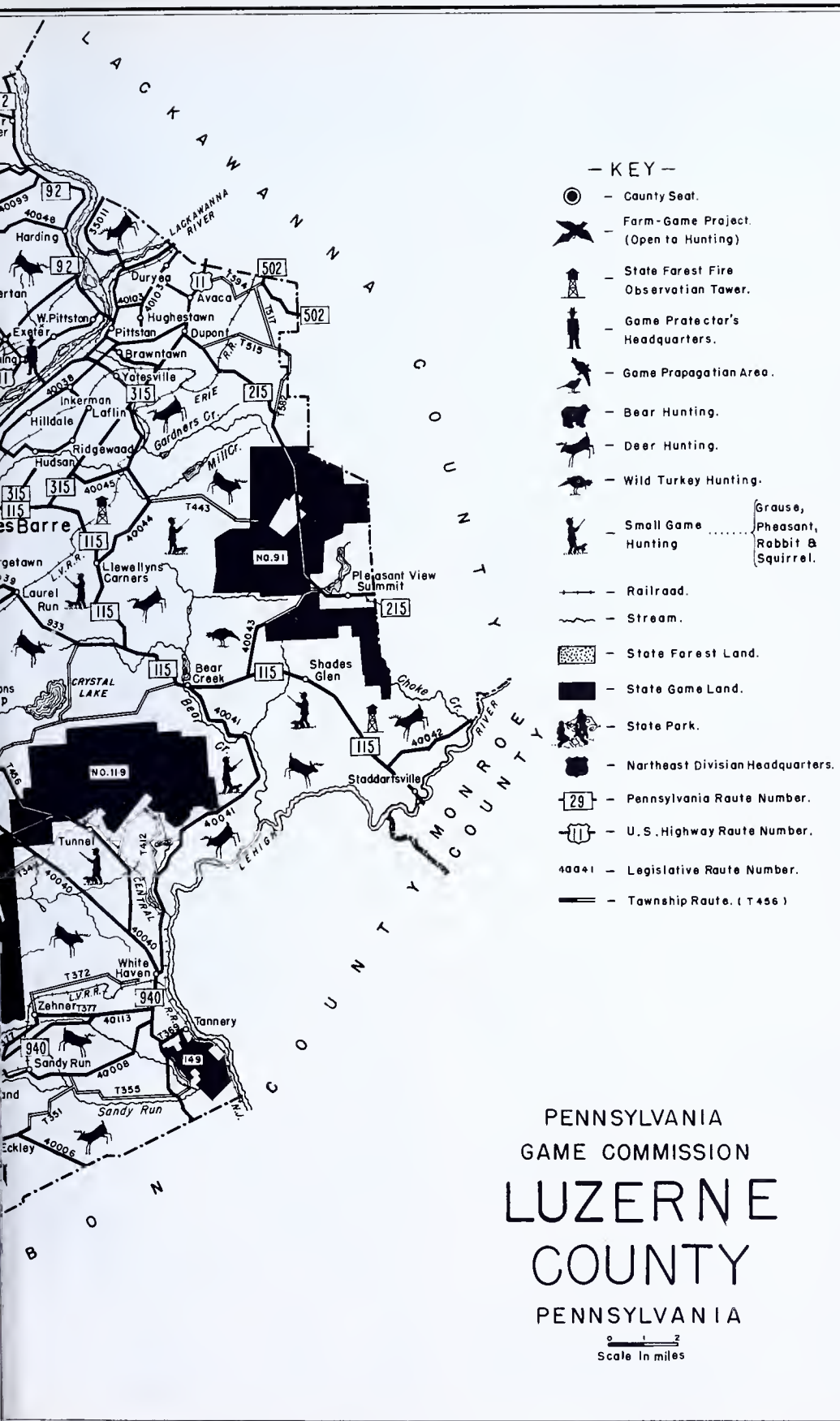
Agriculture

Agriculture is not carried on very widely because of the rugged land and extensive coal mining operations. Apples, however, are raised in abundance, the county ranking sixth in the State in the value of this crop.

Industry

The most important factor in the industrial growth of this region was the discovery, early in the nineteenth century, of the practical value of anthracite coal. Although known and used as early as 1769, it was not until 1808 that anthracite was burned in grates. Mining in quantities was begun at the start of the "industrial age" in America about 1840. Anthracite occurs in Pennsylvania mainly in four irregular basins, known as the northern, eastern middle, western middle, and southern fields. The northern field, most of which lies in


WYOMING COU
SULLIVAN COUNTY
NO 57
Bowman Creek
RICKETTS GLEN PARK
Ripple
Kyttle
206
Red Rock
Massville
Rittenhouse
Fairmount Springs
Broadwoy
Bloomingdale
Pritchard
Muhlenburg
Sweet Valley
Silkworth
Pikes Creek
PIKE CREEK RES.
Harver Cr.
Fodes
Weintz
Loyalville
Laketon
HARVEY LAKE
Alderson
Kunkle
Warden Place
Shawonese
Idetown
Dallas
Lehmon
Meeker
Huntsville
HUNTSVILL RES.
Chose
Lorksvill
Plymouth
Avondale
Johnson
W.Nonticoke
Nanticake
Dunde
Alden
Wanamie
Glen Lyon
Hunlock Creek
SUSQUEHANNA
PENNA. R.R.
L.V.R.R.
LILLY LAKE
Nuongole
Slocum Corners
Blutheburn
Dorrance
Springtown
Hobbie
Wapwallopen
Wopwallopen
Scanlin
Moconaqua
Pond Hill
Pond Cr.
Little Wapwallopen
Beach Haven
E.Berwick
Nescopeck
Briggsville
Zenith
Nescopeck Cr.
Subertsville
Mountain Grove
Rock Glen
Fern Glen
Derringer
Weston
Tomhicken
Black Creek
Block Ridge
West Hozleton
Jeonesville
Beaver Brook
Milnesville
Conyngham
Drums
Soint Johns
Huntington Mills
Harveyville
Cambra
New Columbus
Waterton
Koonsville
Shickshinny
Huntington
Pine Cr.
Hunlock Cr.
Susquehanna
Co. Road
Co. Rd.
Penna. R.R.
L.V.R.R.
SCHUYLKILL COUNTY
USE CARE IN BURNING
FENCE ROWS
NEAR WOODED AREAS
PREVENT FOREST
FIRES


LACKAWANNA COUNTY
MONROE COUNTY
BONNE
Harding
Duryea
Avaca
Hughestown
Pittstan
Dupont
W.Pittston
Exeter
Brawntown
Yatesville
Inkerman
Laflin
Hilldale
Ridgewood
Hudsan
Gardners Cr.
Mill Cr.
Llewellyns Corners
Laurel Run
Pleasant View Summit
Bear Creek
Shades Glen
CRYSTAL LAKE
Choke Cr.
Staddartsville
Tunnel
White Haven
Zehner
Tannery
Sandy Run
Eckley
LACKAWANNA RIVER
LEHIGH RIVER
NO.91
NO.119
NO.149
L.V.R.R.
R.R.
CENTRAL
ERIE
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502
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315
215
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40008
40006
40038
35011
T354
T356
833
KEY
County Seat.
Farm-Game Project. (Open to Hunting)
State Forest Fire Observation Tower.
Game Protector's Headquarters.
Game Propagation Area.
Bear Hunting.
Deer Hunting.
Wild Turkey Hunting.
Small Game Hunting ..... Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Forest Land.
State Game Land.
State Park.
Northeast Division Headquarters.
Pennsylvania Route Number.
U.S. Highway Route Number.
40041 Legislative Route Number.
Township Route. (T456)
PENNSYLVANIA
GAME COMMISSION
LUZERNE
COUNTY
PENNSYLVANIA
0 1 2
Scale In miles
L.A.M.

Luzerne County, reaches its greatest width in the Wilkes-Barre district. The smaller, eastern middle district centers around Hazleton and lies almost entirely in the southern part of the county. From these two fields, Luzerne County produces annually over 40 percent of all anthracite mined in Pennsylvania

History

Luzerne County, in the historic Wyoming Valley region, has had a colorful and often turbulent history since it was originally established in 1786 from the "Mother of Counties," old Northumberland. At one time it was the largest county in the State, exceeding in size the State of Rhode Island. It was named after a French minister to America, Chevalier de la Luzerne.

Because of its location in the heart of the upper Susquehanna and Wyoming Valley region, the area was from earliest times an important center for the life of Pennsylvania Indians. Shawnee Indian settlements were centered along the Susquehanna, and later Minsi and Delaware Indians located in the Wyoming Valley following the famous "Indian Walk" of 1737 after their forced removal from Bucks County. All of these Indian occupants were under the stern rule of the fierce Iroquois of New York. The earliest white visitors, other than an occasional explorer, were Moravian missionaries seeking to convert the Delawares. The first of these missions was organized in 1742.

Recreation—Fishing

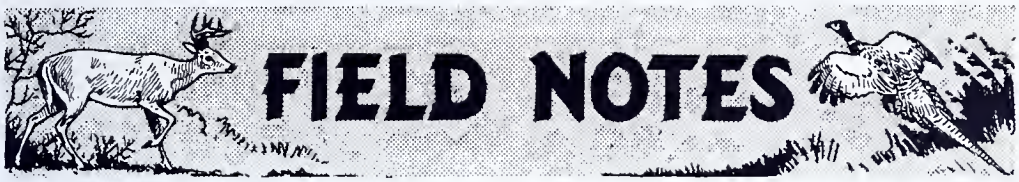
Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT. Arnold Creek, Kyttle, Rt. 115, 4 mi.; Bowmans Creek, Kyttle, 3 mi.; Harvey's Creek, West Nanticoke, Rt. 11, 4 mi.; Hunlock Creek and W. Branch, Hunlock Creek, Rt. 11, 6 mi.; Huntingdon Creek, Kyttle, 5 mi.; Kitchen Creek, Harveyville, Rt. 239, 3 mi.; Lehigh River, White Haven, Rt. 940, 7 mi.; Linesville Creek, White Haven, 5 mi.; Nescopeck Creek, Edgewood, Rt. 309, 10 mi.; Oley Creek, Freeland, Rt. 309, 2 mi.; Phillips Creek, Kyttle, 3 mi.; Pine Creek, Fairmount Springs, Rt. Junction T543 & 40082, 7 mi.; Little Shickshinny Creek, Shickshinny, Rt. 11, 3 mi.; Little Wapwallopen Creek, Wapwallopen, Rt. 29, 3 mi.; Wrights Creek, White Haven, 4 mi.

BLACK BASS: Cummings Pond, Orange, Rt. T810, 43 A.; Harvey Lake, Alderson, Rt. 115, 660 A.; North Lake, Sweet Valley, Rt. 29, 40 A.; Nuangola Lake, Nuangola, Rt. 309, 98 A.; Silkworth Lake, Silkworth, Rt. 29, 75 A.; Sylvan Lake, Sweet Valley, 81 A.

Recreation—Hunting

Luzerne County offers diversified hunting, including good deer hunting and some bear hunting. State Game Lands open to public hunting are found as follows: Number 57 (in part), in the northwest section, covering 5,077 acres; Number 91 (in part), near Bear Creek, covering 9,013 acres; Number 119 southeast of Mountain Top, covering 7,969 acres; Number 149, south of White Haven, covering 1,127 acres; Number 187, north of Freeland, covering 6,994 acres; Number 206, west of Pikes Creek, covering 978 acres; and Number 207, west of Mountain Top, covering 833 acres. There are two Cooperative Farm Game Projects in the county—Number 156 at Huntingdon Mills and New Columbus, covering 9,796 acres and Number 187, at Conyngham, covering 5,289 acres.



Bovine Business

CAMBRIA COUNTY—Mr. Mike Smith of St. Benedict, Penna., requested and received some of the Game Commission Safety Zone posters prior to the opening of our last small game season. In turn, Mr. Smith put these safety zone posters around his buildings. The next day, to his disgust, Mr. Smith found two of the signs torn down, with parts of the sign missing. Thinking that someone had torn the signs down, Mr. Smith put up "No trespassing" signs. Paul Miller, member of the St. Benedict Sportsmen's Club, asked if I would talk to Mr. Smith. The following day, while Mr. Smith and Mr. Miller were waiting for me at Mr. Smith's residence, they found the answer as to what had happened to the Safety Zone posters. Mr. Smith's cow was observed chewing up one of the new "No Trespassing" signs.—District Game Protector G. A. Miller, Barnesboro.

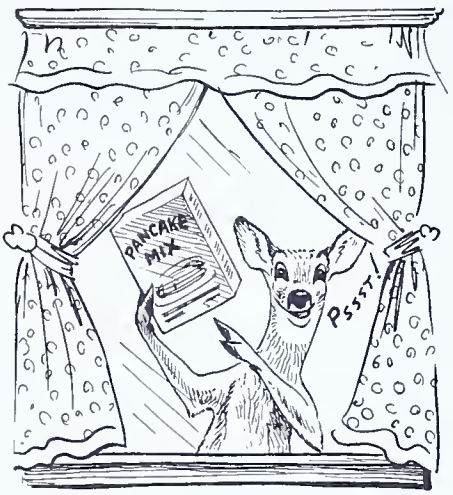


Ill Wind Blows Good Ducks

WYOMING COUNTY—This section of the north branch of the Susquehanna River held an extraordinarily large number of wild ducks during last winter. There were a number of species, but they were mostly black ducks and mallards. Many theories have been advanced as to why so many more ducks have wintered here than in recent years and one of these reasons that warrants considerable merit is the fact that Hurricane Hazel laid low a considerable amount of corn in the fields along the river flats. Consequently, this corn was not cleanly harvested. On many occasions ducks numbering in the hundreds were observed feeding in these corn fields. This just adds credence to the saying, "It's an ill wind that blows no good."—District Game Protector Richard R. Roth, Tunkhannock.

Fireproof Duck Finally Fails

WARREN COUNTY—On July 6, 1951, I liberated 25 ducklings on the upper end of Chapman Dam in Warren County. These ducklings were five weeks of age and were all banded with Game Commission leg bands. Recently I received information that one of these ducks, a mallard drake, had been shot and killed on January 4, 1955, on Pin Oak Flat near Corning, Arkansas. It might be interesting to know how many rounds of ammunition had been fired at this duck during the several migratory flights that he made between 1951 and January, 1955.—District Game Protector David R. Titus, Warren.



Pancakes Provide Deer

SUSQUEHANNA COUNTY—During the prolonged cold snap in February, Mrs. Fred Carl, who lives at the river bridge in Hallstead, placed table scraps in her back yard to feed hungry songbirds. Among these scraps were pancakes. A lack of natural food drove a deer to feed on greens left in the Carl garden. He soon found the pancakes and liked them so much he would stay in the vicinity of the house even during daylight hours in spite of the fact that the Carl home is immediately adjacent to busy Route 11. Even curious motorists stopping their cars to watch did not phase him. So hungry did that deer get for Mrs. Carl's flapjacks he would circle the house peering into each window in hopes of a handout. Just before the cold spell broke and Mr. Deer returned to his natural habitat, Mrs. Carl's cooking had enticed him to take his meals at the porch steps.—District Game Protector Donald G. Day Susquehanna.

Refuge Wire Comes Out in Wash

GREENE COUNTY—On February 4, while feeding game and filling squirrel feeders on Farm-Game Project No. 135, near Carmichaels, I decided to take a patrol around the refuge to check tracks of animals going in and out of it. On returning to my car along the township road, I noticed one of the red signs fastened to a tree and some of the wire missing. I made a further check of what took place. A 150 foot length of the refuge wire was gone, another piece cut on one end and the red sign neatly wrapped around a tree. I just wonder what this culprit would think if he saw a half dozen rabbits hanging on his wife's clothes line some morning.—District Game Protector Alex Ziros, Carmichaels.

Johnny Apple Seed For Wildlife

ELK COUNTY—Last February, I visited the residence of Joseph Chamberling who resides in Spring Creek Township, to observe his winter game feeding project. When I brought my car to a halt in his driveway, I observed five deer browsing about one hundred yards from his house. All of a sudden the deer started in the direction of a little workshop about a stone's throw from his house. I myself turned my eyes in the direction of the workshop to observe Joe leaving the shop and walking towards the house. The look in the eyes of the deer was as much as to say it must be about supper time. I informed Joe that I had about ten bushels of frozen apples in the car that a grocer had given me for winter game feed and asked if he wanted them. He informed me that he had about sixty bushels of apples in storage for the deer and would not need them, providing the winter didn't get any worse. By this time the deer that were browsing about his residence had moved within 25 feet of us. I reached in my car and handed Joe a handful of the apples. Joe spoke to the deer, "come and get them." It seemed as if the entire hill side was moving, as in addition to the five deer that were there, another large herd came scampering from the adjacent woodlands. A large number

of the deer were within almost reaching distance of Joe, gathering up the apples. Joe has an apple orchard of about four acres in size which he maintains primarily for the deer. Each fall he picks and stores over one hundred bushels of apples which he uses to feed the deer during the winter months. After Joe picks and stores an adequate supply for the winter, he permits his neighbors and friends to have the remaining apples at no charge, but gladly accepts a donation which he in turn uses the money to purchase other types of feed for our other fur and feathered friends of the forest. At a quick glance around Joe's residence, especially during the winter months, one would gain the impression that he is in the game propagating business as most generally one may see quite a variety of game species utilizing his feeding accommodations. — District Game Protector Gerald D. Kirkpatrick, Portland Mills.

Nature Tragedy

SULLIVAN COUNTY—On February 28, while crossing a portion of State Game Lands No. 13, Sullivan County, to check an area of wind damaged timber to determine extent of the damage, I saw the aftermath of one of nature's tragedies. A full grown doe deer lay at the base of a small maple with the left front leg torn completely off about three inches above the first joint. The area in a semi-circle was completely denuded and compacted by the struggling animal. The story was plain to read; a sprig of laurel brushed against the double stemmed tree about eight feet above the ground. Some four feet lower the leg and foot of the deer was still lodged in the crotch of the two stems. The animal had put up a terrific struggle to free itself, even to the point of breaking and tearing the leg completely off, only to die from loss of blood and weakness at the base of the tree. Land Utilization Assistant Nicholas M. Ruha, Forty Fort.

Bear In Tow Worth Two In Brush

BERKS COUNTY—Stories of the past big game season still crop up—this was told to me last February. Two local residents were hunting in Tioga County and killed a bear about 10:30 A. M. The kill was made deep in the mountain and the two had to work the bear out alone. The younger man would carry their guns ahead, but within sight of the bear and return to help drag the carcass up to the guns. Then the procedure would be repeated. After one trip with the guns, he returned and helped with the carcass. Just as they started to move the bear again a heavy sound in the brush attracted their attention. The two gunless hunters watched two legal bear and two cubs pass within 50 yards of them without being able to do more about it than curse their luck. With only the one bear to pull out they were at the task until well after dark; with two to drag they might still be at it.—District Game Protector Joseph Leiendecker, Reading.



Just Tired Of It All

COLUMBIA COUNTY—A beaver of good size, evidently tired of back woods life, has established himself, or herself, in Boone's Dam in the town of Bloomsburg. On one occasion it is said to have given a Mt. Carmel sucker fisherman a cold shower bath. We will wager that the fisherman was the more scared.—District Game Protector Mark L. Hagenbuch, Bloomsburg.

Siesta Spells End

ERIE COUNTY — During the month of January, Joe Tomcho of R. D., Union City, and a Mr. Thompson from Corry were inspecting timber on Mr. Tomcho's farm. Mr. Tomcho sighted a grey fox lying beside a small knoll. He picked up a club and Mr. Thompson ordered his Weimaraner dog to heel as they approached the fox. Mr. Tomcho thought the animal might be dead and poked it with the club. The fox jumped up and tried to escape but the big dog cornered him and Mr. Tomcho ended the career of that fox with his club. The animal was in good condition and was quite large for a grey fox. My guess is that the fox overindulged and was sleeping it off.—District Game Protector Elmer D. Simpson, Union City.



Dead Deer Do Tell Tales

CHESTER COUNTY—On February 26, 1955, Deputy G. Holden received a call from the Pennsylvania Turnpike Interchange at Uwchland, that a deer had been struck and killed by an automobile. Both the Deputy and I proceeded to pick up this deer, and to our surprise, instead of having one deer to pick up we had four—one large doe and three embryo deer which were the size of a large squirrel. This again proves that the size and condition of the animal is determined largely by the food conditions in the area in which the animal roams. It also points out the fact that as long as individuals let their dogs run at large particularly in the spring when our deer are heavy with young, they are no match for dog or mechanized vehicles, and the fewer deer will be reaped by the hunter in season.—District Game Protector Edward Fasching, Downingtown.

Who Trapped Who?

DELAWARE COUNTY — Deputy Game Protector Gene Hill of Upper Darby told me the following experience he had on his trap line: I had prepared a "Spring Hole" set for fox and due to its location near a game trail it seemed to catch a conglomeration of furbearers including skunks, raccoons, possums, fox, weasel and even a red squirrel. However, I was yet in store for a surprise as to what the set would next produce. I rounded the trail one particularly cold and dark morning to the din of the rau cous cawing of a flock of crows in the hemlocks surrounding the location of the trap. Closer inspection of the trap revealed the fact that I had caught a crow, but the crow in turn had its talons fastened upon the leg of a large red shouldered hawk which evidently had figured on the trapped crow for breakfast. The hawk made no effort to destroy the imprisoned crow, rather it was beating its wings

in a frantic effort to free itself of the crow who was holding on apparently believing that when the hawk arose it would rid the pair of them from "the thing" which so securely held them there. Upon opening the jaws of the trap, the crow promptly released its hold upon the hawk and both birds took off in different directions.—District Game Protector Daniel McPeek, Jr., Glen Mills.

Needed—Wildlife Dentist

YORK COUNTY—Freeman Silar of Long Level told me about catching a gray fox this month in need of oral surgery. The fox had only a few molars left and when he touched them one of them fell out. The fox was in good condition, so he examined the stomach contents and found that the fox had been living on apples.—District Game Protector Daniel Fackler, Windsor.

Scouting Around

ADAMS COUNTY—On Saturday, February 26, 1955, I accompanied a Dallastown Boy Scout Troop on a field observation hike, visiting beaver dams, and making shrub and tree identification. A number of interesting things were noticed by the scouts. One in particular was a 32 inch water snake in the icy water of Mountain Creek. This I thought was rather unusual for this season of the year. We also visited the cabin of a trapper at Pine Grove Furnace, who had recently caught a 45 pound beaver. The method of trapping and skinning a beaver was explained to them. This particular trapper uses the beaver carcass for food and he described ways of preparing it. This was all very interesting to the scouts, as most of them had never seen a beaver or a beaver dam.—District Game Protector John R. Spahr, Pine Grove Furnace.



Horned Owl With Homing Instinct

ERIE COUNTY—During November, 1953, we caught a great horned owl in a pole trap in a pheasant holding pen on State Game Lands No. 109. In August of 1954, at a point 12 miles away, while being used as a decoy for crows, this owl escaped the handler. Again on January 26, 1955, this same owl, with leg bands attached, was captured in the same holding pen on State Game Lands No. 109.—District Game Protector Virgil Grose, Wesleyville.

Save Game Samaritan

CLINTON COUNTY—On February 21, while making a general patrol of the Loganton area, it was my pleasure to talk with Mr. Earl Smith, a former bus driver and now an established farmer in that area. Mr. Smith is a great lover of wildlife and is much concerned about its welfare. He has a number of acres of standing, unhusked corn, which the deer have been feeding upon during these winter months. Then, too, he says he always plants a few extra

rows of corn for the wildlife. Before bringing our conversation to a close, Mr. Smith was most generous in giving to the Pennsylvania Game Commission not two or three, but one hundred bushels of corn to be used for additional feeding.—District Game Protector Oscar S. Hake, Flemington.

Freeze-up Foxes Fox

CARBON COUNTY—While on a recent fox hunt with sportsmen from the Lehighton area, I was told this story: During the cold snap in the beginning of February, the large dam at Wild Creek, which is a water shed for the city of Bethlehem, was completely frozen over with the exception of a small area near the center. This area was a haven for a large number of black ducks. On this certain day two foxes were seen attempting to catch these ducks and at one time jumped together into the icy waters after the ducks. One of the foxes got out rather easily, the other had more trouble. After climbing over the edge of the ice, this last fox sat down on his hind quarters, no doubt very tired. When he attempted to stand up and leave he found out that his tail was frozen fast to the ice. There was considerable tugging and jumping before he freed himself from his predicament. District Game Protector William E. Fulmer, Lehighton.

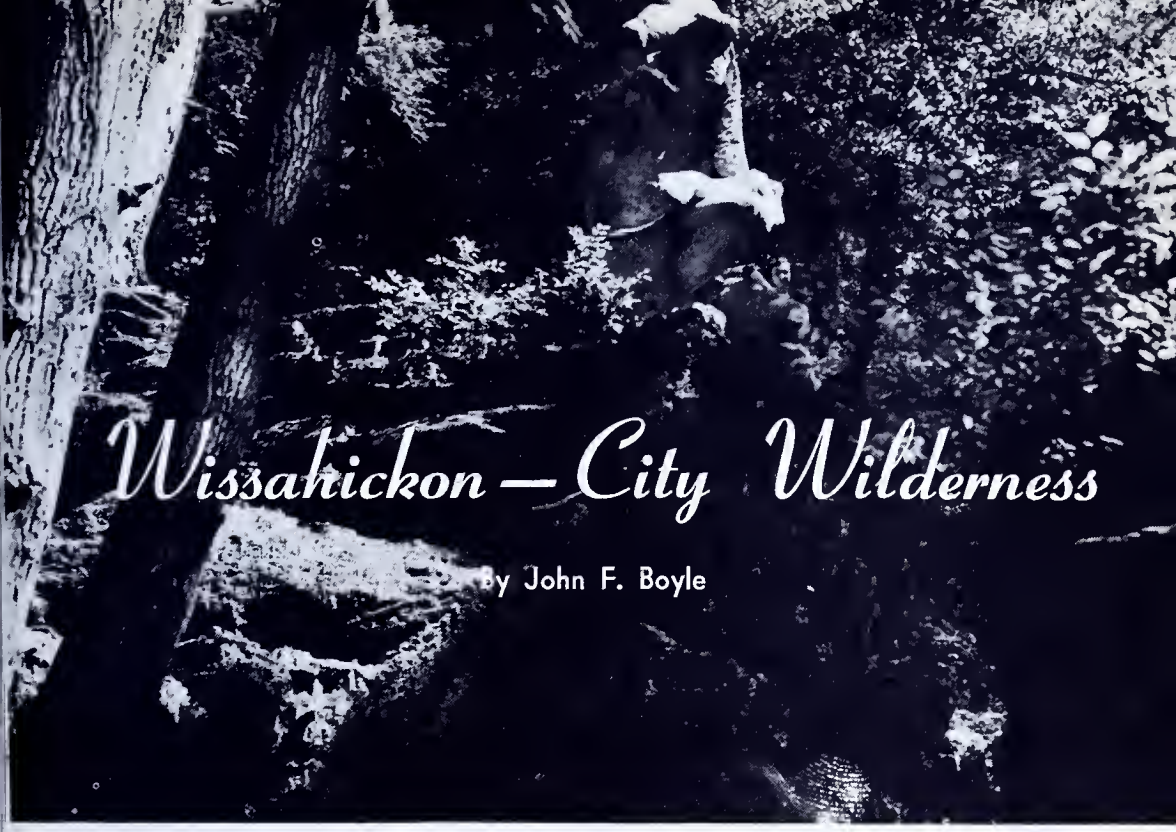


What It Takes For Turkeys

CENTRE COUNTY—I wonder how many of the city hunters who come into this section of the state for their turkey hunting realize the work and effort that is required during the winter months to insure the turkeys come through the winter. Without the help of the local sportsmen the winter feeding program would be a full time job for the game protector. I would like to cite what one of these local sportsmen is doing. Shorty Ginter of Philipsburg, this past winter built and placed out 14 ten bushel feeders. He has over $100 invested in the material to build the feeders—his own money. He has a four wheel drive jeep truck that he uses to get to his feeders. He has found by experience that even four wheel drive isn't enough to get over these mountain roads in the winter. He has had to equip the truck with a winch in the front with a hundred feet of steel cable to get him over most of these roads. Recently, Mr. Ginter helped me fill two of my feeders. It took three of us eight hours to fill those two feeders; in normal weather it would have taken an hour. —District Game Protector Robert H. Sphar, Philipsburg.

Groundhog Legend Looks Live

CUMBERLAND COUNTY—I witnessed a sight one day in February that perhaps the followers of the Groundhog legend may be able to explain. According to the local followers, Br'er Groundhog saw his shadow on February 2, 1955, and promptly returned to sleep another six weeks. On February 27, 1955, while on patrol west of the boro of Mechanicsburg, I saw a woodchuck crossing a field and if he was walking in his sleep, he certainly must also be eating in his sleep because he was in very good shape and showed no signs of having been in hibernation. District game Protector Homer H. Thrush, Mechanicsburg.



Wissahickon—City Wilderness

By John F. Boyle

THERE is a game refuge in Pennsylvania not listed as such in any catalogue, nevertheless containing an abundance and variety of wild things that few others can match. Moreover, it is a spot so renowned for its beauty and historical associations as to be listed by Baedecker, that distinguished guide of travelers, as well worth seeing. He described it as a "miniature Alpine gorge." It is a long, narrow valley—six miles long, a mile or so wide—through which a well-stocked trout stream meanders, bordered by steep, thickly wooded hills.

What really makes the place unique, though, is the fact that it lies in the metropolis of Pennsylvania, the third largest city in the country, Philadelphia, with its population of over two million. The Wissahickon Valley, to name our wonderland, has been part of Fairmount Park, Philadelphia's municipal park, since 1868, when the valley was restored to its pristine loveliness by removing most of its structures and allowing only those to remain that would serve as mementoes of its historic and legendary past.

High up on a flat rock, overlooking the valley, a gigantic Indian, carved in white stone, kneels tomahawk in hand, peering Indian fashion into the west. It marks the rock upon which the Lenni Lenape or Delaware Indians held their councils.

In 1694 forty-two Germans emigrated to Pennsylvania and settled in this region. They were all educated men, but, perhaps because of their addiction to astrology, magic and other occult sciences, they were driven from the universities of Europe. Led by John Kelpius, an eminent scholar of noble ancestry, they formed themselves into a society known as, "The Society of the Woman of the Wilderness." They lived as hermits in caves, that still may be seen, close by the creek. Here they cast horoscopes, told fortunes and otherwise performed acts of divination and magic. Dr. Christopher Witt, a distinguished physician, was their formost magician and conjuror. He lived to be a hun-

dred years old.

Another society, quite different from the above, came to the valley in 1719. It was the religious sect known as the "Pietists." Because they believed in Baptism by immersion they chose a pool that empties into the creek for that rite still called "The Baptisierum," and selected a Peter Beeker as the official baptizer. They lived rigorous lives of prayer and penance, sleeping on wooden benches, with a block of wood for a pillow, and attending worship four times a day. The sexes dwelt apart, marriage was forbidden. If a member wished to get married, he had to withdraw from the community. Goods were held in common. Both men and women wore long white gowns with cowls, linen in summer, wool in winter, with sandals on their feet. They walked in Indian file with their faces cast to the ground.

The name Wissahickon means "catfish stream" in the local Indian tongue, and according to old chronicles there were quite a number of inns, restaurants and roadstands that featured "Catfish and Waffles" on their menus. Only one of these eating places remain today, "Valley Green Inn." Here amid old-fashioned surroundings you can get an excellent meal, but I doubt if they have any catfish. The inn may be said to be remarkable in one respect, however, it makes no claim that Washington ever slept there.

Not that there are no memorials of the Revolution hereabouts. One is Mom Rinker's Rock, where tradition says a matron of that period used to sit, ostensibly engaged in knitting, but really spying on the British whose movements she transmitted by means of notes tied to strings of yard to someone waiting below. Another authenic reminder is in the form of a bronze tablet, marking the site of a skirmish between American and British troops fought on the day of the Battle of Germantown. The two forces opened fire on each other on opposite sides of the creek, with the results not recorded on the plaque erected by the Pennsylvania Society of the Sons of the Revolution. General John Armstrong led the Americans, while the British troops were commanded by Lt. General Knyphalsen.

The skirmish site also marks the end of automobile travel on the valley road. From here one must go on foot or horseback, the road not being conducive to bicycle travel. Motorists wishing to explore the valley must use the parallel roads, and then take the side roads nearest to the points desired. This is the method anglers use when driving to favorite fishing spots. Fishing is permitted with the same regulations that govern the rest of the state. Hunting is, of course, prohibited.

Hikers and nature lovers find the place ideal. Besides the spots mentioned there are others like: "Washington's Rock," "The Monastery" and "Hermit's Glen," each one invested with an aura of romance and story. Besides the usual quota of small game, birds of many species make it their resting and nesting place. As far as I know, the last eagle was seen here in 1906.

The deer, I understand, are trapped and sent elsewhere, but keep finding their way back. On October 30, 1951, a big buck provided a lot of excitement when he strayed into the crowded city. Although it was around 3 A. M. it led policemen a lively chase until it was cornered in the Erie Avenue station of the Broad St. Subway and shot by a policeman. On June 17, 1953 a doe was destroyed by a game protector in a schoolyard. Both animals were badly lacerated by unsuccessful leaps over high fences. Their carcasses were donated to charitable institutions.

Several writers have given descriptions of the Wissahickon in verse and prose. Fanny Kemble first awakened



REVOLUTIONARY WAR MEMORIAL marks site of skirmish between American and British troops fought on the day of the Battle of Germantown.

the public to the real beauty of the stream in 1832, although there were short references to it by other writers in magazines previously. Weir Mitchell referred to it in his novel, "Hugh Wynne." It received lasting and world recognition, however, when Edgar Allen Poe wrote "The Elk," or "Morning on the Wissahiccon," as it is sometimes entitled. Notice that he spelt the word with two "c's" instead of "ck." George Lippard, 1822-54, was enamored with the place, and wrote many stories with the Wissahickon as a background. He was even married there with Indian rites one night in May, on a moonlight night, on a rock overlooking the stream. "It is," he wrote, "A poem of everlasting beauty, a dream of magnificence—the world-hidden, wood embowered Wissahickon."

During Poe's residence in Philadelphia, 1939-1884, he wrote some of his masterpieces, "The Murders in the Rue Morgue," "The Raven," "The Black Cat" and other tales of lovely horror. He was a frequent visitor to the Wissahickon, where he sauntered along its banks in long walks. It seems to me he must have been inspired to write his poem, "Dreamland," by this region. Anyway, whenever I take a walk there I find myself repeating phrases of the poem to myself: "By a route, obscure and lonely, haunted by ill angels only . . . Dim vales and shadowy floods, chasms and caves and Titan woods . . . Here the traveler meets aghast, sheeted memories of the past . . . To the heart whose woes are legion, 'tis a peaceful, soothing region, to the soul that walks in shadow, 'tis, O, 'tis an El Dorado . . . I have wandered home but newly from a dark, dim Ultimate Thule."



Veteran Commission Officer Retires From State Service

Hugh H. Groninger, long-time employee of the Game Commission, retired from state service on April 1, 1955. The veteran officer was assistant supervisor, Bounty Claims Section of the Wildlife Protection Division in Harrisburg at the time he voluntarily tendered his resignation.

A native of Port Royal, Juniata County, Groninger started his Commission service as a Game Protector in his home county November 1, 1919. He later served in Perry and Westmoreland counties. Since November, 1940 he has been assigned to the Bounty Claims Section in Harrisburg.



Hugh Groninger

Commission's Spring Planting Program Ready

The Commission's land utilization activities for the spring months must be planned in advance. On the basis of farmer contacts during the fall and winter months, and a study of State Game Land requirements, field employes of the wildlife agency have already ordered most of their planting stock for the spring of 1955.

Totals on March 1st indicate that 2,345,000 tree, shrub and vine seedlings have been requisitioned. Of this number 1,403,000 will be moved from the Commission-managed Howard Nursery, 681,000 from the Pennsylvania Department of Forests and Waters, 169,000 distributed to the Southcentral Division from Game Land No. 188 Nursery, and an additional 92,000 to be purchased from the Department of Justice Nursery at Bellefonte.

1954-55 Live-Trapping Program Sets New Record in Rabbits

More native cottontail rabbits were live-trapped and transferred throughout Pennsylvania this past winter than in any other similar period in history. More than 66,260 rabbits were taken from cities, parks, gardens and other places where they were considered a nuisance and transferred to open hunting areas to provide future sport for hunters. This total betters the number taken in the 1953-54 winter, almost 59,000 which itself established a record. In 1952-53 the catch was close to 53,000 while in 1951-1952 it was almost 58,000.



PGC Photo by Johns

FIREARMS SAFETY INSTRUCTORS at first clinic held at Penn State University, March 13, are, left to right: John McHugh, Dept. of Phys. Ed., State University; Bill Clede, NRA; R. D. Reed, Game Commission; Sherm Fogg, State University; Jim Dee, Sporting Arms Institute; George Harvey, State University; and Stan Mate, NRA.

First Firearms Safety Clinic Held at Penn State University

On March 13, 1955 a new approach to hunting safety was started at Pennsylvania State University. Aimed at "teaching teachers how to teach" firearms safety, a day-long clinic was conducted by representatives of the University, Sporting Arms and Ammunition Manufacturers' Institute, National Rifle Association, and Pennsylvania Game Commission. The clinic was the first of its kind held in the Keystone State and was the forerunner of others planned for various areas of the State. The students in this case were members of the University faculty and interested members of the Mt. Nittany Sportsmen's Association which originally requested such training.

The purpose of similar sessions planned throughout the state will be to train and qualify personnel to conduct safety education courses in junior and senior sportsmen's clubs, public schools, and elsewhere. Such training is aimed at the prevention of gun casualties, both in the home and in the field. Firearms safety experts have long realized that modern firearms by themselves are perfectly safe and can bring immeasurable pleasure and benefit, without mishap, to all those who use them carefully. Only when in the hands of untrained or careless persons do they become dangerous.

Subjects included in the hunter safety course for instructors are: knowledge of guns and ammunition, safe gun handling, hunter's responsibility, safety measures at home or in camp, and range firing. Before he is qualified, the prospective teacher fires a .22 caliber rifle "familiarization" course and takes a written test, both of these under the supervision of the National Rifle Association.

Educators, sportsmen and personnel of the Game Commission have tried for years to make the people of Pennsylvania, youngsters particularly, gun safety conscious. Their efforts in this direction have met with considerable success and will continue. But in the past a complete course in gun handling and hunter safety was not always available to those who wished or needed it. The new Hunter Safety Clinic system will provide a corps of well-trained instructors, qualified to do a better, more widespread job of teaching firearms safety.

State Hunter Casualty Report For 1954

The Game Commission has completed the record of Pennsylvania's casualties by hunter firearms in 1954. The figures are based on reports required by State law of persons involved in human shootings while hunting or trapping for any species of wildlife.

In the Commonwealth last year 21 persons were killed in the hunting field by sporting arms. Injured in some degree by hunter's gunfire were 508. Two persons were injured by hunters' arrows.

Encouragingly, the 1954 fatal shootings numbered 13 less than the previous year, when 34 persons (an exceptionally high number for the State) met death in the hunting field through the discharge of their own weapons or that of another. In 1954, the number of injured, 510, was one higher than in 1953.

Injuries or deaths due to heart failure, those that occurred enroute to or from the hunting field and others caused by any incidental happening, are not included in this report.

Proving that hunting, as a rule, is a safe, healthful sport when the common sense rules of safety are observed, most of the near-million hunters in Pennsylvania enjoyed their sport last year without a mishap.

As usual, the facts surrounding so-called hunting accidents indicate that in most instances a basic rule of safety was violated, either by the shooter or the victim.

Proof of this are these items taken from the 1954 Pennsylvania record. Nine of the fatalities were self-caused; 73 of the injuries were by the weapon in the hands of the person hurt. Two persons were killed and 12 were injured by guns placed in a dangerous position. Guns accidentally discharged in the hands of hunters caused the death of 6 persons, caused injury to 64. The "hunter slipped and fell (with safety off)" category, accounted for 5 deaths and 25 woundings. Shot in mistake for game caused 5 fatals, 13 non-fatals.

FAMILIARIZATION COURSE in firing .22 caliber rifles is part of firearms safety training. Supervised training in how to handle and operate guns is essential to safety. Clinics, such as this one, are aimed to make hunting a safer sport.



Surprisingly 7, or one-third the persons killed by hunter gunfire last year, were in open fields and two others were on public highways. Three hunters met death in daylight, none in dusk, dark or fog. Ten met their end during clear weather, removing the "did not see" excuse. The injury rate ran correspondingly high.

Classified as to persons shot while hunting certain birds or animals, the following: Deer, 3 persons shot fatally; 29 wounded. Bear, no fatalities, 3 injured. Upland small game, 14 killed; 433 injured. Woodchucks, 3 fatalities; 32 non-fatalities. Predators, 1 person died; 1 was wounded.

The shotgun caused 13 hunter deaths and 445 injuries. The rifle, 8 fatals and 57 non-fatals.

So the record goes, pointing to the fact most of these casualties by hunting arms need not have been. Any firearm can bring pleasure, pain or death, dependent on the handler.

Two divisions of Pennsylvania's 1954 hunter casualty report are thought-provoking. They show that youngsters between the ages of 12 and 21 years caused 8 of the deaths and 77 of the injuries. The number of youths killed in that age bracket was 4; the number wounded was 45.

Unfortunately, about all the gun training many boys receive from parents is the admonition, "Be careful, don't shoot yourself or anyone else." There is little need to worry about boys who have been trained in the careful use of guns. There is often cause to worry about the "experienced" hunter in whom familiarity with firearms has bred contempt.

Two Pennsylvanians Named For Nash Conservation Awards

Two Pennsylvanians earned national acclaim recently when they were selected among 10 volunteer conservationists to receive recognition in the second annual Nash Conservation Awards Program. John R. Reddecliff, a high school teacher at Warren, was named for his work in organizing a regular high school conservation course in his school. Charles W. Stoddart, Jr., Director of Extension for the Pennsylvania State University's College of Physical Education, was honored for his outstanding work as director of the Junior Conservation Camp sponsored by the Pennsylvania Federation of Sportsmen's Clubs and various State conservation agencies. Both men received bronze plaques as testimonials to their conservation efforts.

Ed Zern, widely known outdoors writer, announced the names of 10 winners each in the professional and volunteer class at the North American Wildlife Conference in Montreal last March. The 20 winners were selected by a committee of writers and editors from nominations submitted by officials of state, federal and private conservation agencies and by writers on conservation topics. Last year, three Pennsylvanians were named to receive the Nash Conservation Awards, Roger M. Latham and Orrie Smith of the Pennsylvania Game Commission in the professional class and Larrey Blaney, high school teacher of Aliquippa in the volunteer category.



Pa. Dept. of Commerce Photo

YOUNG OUTDOOR AMERICANS delegates representing youth groups in all parts of Pennsylvania met in Harrisburg on March 17 to select one of their own members to represent the Commonwealth at Chicago meeting. Izaak Walton League of America sponsored both state and national meetings.

Pennsylvania Boys Chosen For National Conference

The Governor's Committee on Young Outdoor Americans, sponsored by the Izaak Walton League of America, met at Harrisburg on March 17. The purpose of the meeting was to pick a youth representative to meet, in Chicago, March 30-31, with boys and girls similarly chosen in other States.

The Waltonians will at that time host the second Young Outdoor Americans Conference, a program of youth achievement in resource conservation. The theme of the convention is "Building A Better Outdoor America."

Twelve boy and girl delegates were present at the Harrisburg meeting. They represented most youth groups and came from all corners of the State. The youngsters entered into discussions with enthusiasm and showed exceptional knowledge of conservation subjects. They later held their own election. Charles Wolfe, Reading, representing the Junior Conservation Camp, was named delegate. Jerry Lemon, Marianna, representing Future Farmers of America, was chosen alternate.

Chairman of the Governor's Committee was C. W. Stoddart, Jr., The Penn State University. Other members on the committee represented the Department of Public Instruction, State Soil Conservation Service, Izaak Walton League, Game Commission, Girl Scouts of America, and the Girls' Junior Conservation Club.

Winners Announced In Second Annual Essay Contest

Six Pennsylvania students were named winners recently in the second annual essay contest sponsored by the Pennsylvania Federation of Sportsmen's Clubs. According to Robert C. Yake, of East Lansdowne, chairman of the Federation's Education Committee, entries were received this year from five of the Federation's divisions, the contest more than doubling in size and interest. The essay contest, which is sponsored nationally by the National Wildlife Federation, was open to senior and junior high school students who wrote on the theme, "Why Save Our Wetlands." The six winning essays in the Pennsylvania contest were submitted for consideration in the national contest.

Anne M. Holly, a 12th grade student at Bethlehem Catholic High School and Robert Graver, 8th grade student at the Washington Junior High School, in Bethlehem, were named top winners in the state contest. Both received a check for $50 each. Second place in the senior high group and a check for $25 went to Wesley Fravel, 12th grade student in the Philipsburg High School while third place and a $15 check went to Dottie Sneal, 11th grade student in the Altoona Senior High School. Other junior high division winners were: Justin C. Ladish, of Aliquippa; and Fay Minteer, Edinburg.

Photo by C. Paul Blair

PENNSYLVANIA OUTDOOR WRITERS ASSOCIATION honored Seth L. Myers, center, at annual meeting in Harrisburg on March 19 by naming him Writer of the Year. Award is highest honor the Association can bestow on a member. Dr. Maurice K. Goddard, left, secretary of Pennsylvania Department of Forests and Waters, was principal speaker and witnessed the presentation made by Jack Richards, right, Association president.





WINTER FEEDING PROJECT met with enthusiastic response from members of S.B.K. fraternity of John Harris High School, Harrisburg last winter. Boys met after school sessions to carry out corn and other grain, build feeding stations and shelters under supervision of advisor Jim Keener and Harrisburg IWLA members H. W. Graybill and E. K. Troutman. Left to right: Kirby Lawson, Donald Koneff, Fred Taylor, Newell Coxen, Bill Smith, and project advisors Graybill, Keener and Troutman.

Winter Was Rough on Some Deer

Early March reports from game protectors tell of winter-killed deer in certain northcentral Pennsylvania counties. Here is what some of the officers said:

Vern A. VanOrder, Elk County: "It has been several years since I have seen game conditions worse than this year. However, with the exception of one isolated area, Straight Creek, the game is in surprisingly good condition considering the severity of the winter hereabouts. In all parts of my district—even Straight Creek—all our turkey feeders were well located and well cared for by reliable sportsmen and deputies, if not by myself, the first half of the winter.

"However, the Straight Creek area became inaccessible by ordinary means about the middle of January. It then became necessary to carry in corn in a pack basket. The turkeys began to look be-draggled, and I found two dead deer in their beds. I had to kill two more that were so near death they were unable to get up."

William D. Neely, Potter County: "I am having a good deal of winter kill on deer at the present time, due to heavy snow and poor food conditions. The snow is mostly melted now, but it went too late for many of last year's fawn deer."

Rozell A. Stidd, Potter County: "We lost a few deer by starvation during the severe winter. I know of at least half a dozen that died of this cause. We will probably lose quite a few more in the next month. A lot of them are beginning to show signs of severe malnutrition."

Time To Set Up Bird Houses

The coming of spring serves as a reminder it is time to erect nesting boxes for house wrens, bluebirds, purple martins and other birds soon to arrive.

Authorities on these feathered friends of man say a bird house in clean condition will often decide whether a bird will accept a man-made residence. A hinged or removable bottom makes cleaning of the boxes quick and simple.

Three things that will help birds decide to stay, or insure their safety, are: a bird bath, food-bearing trees and shrubs nearby and the absence or close control of neighborhood cats.

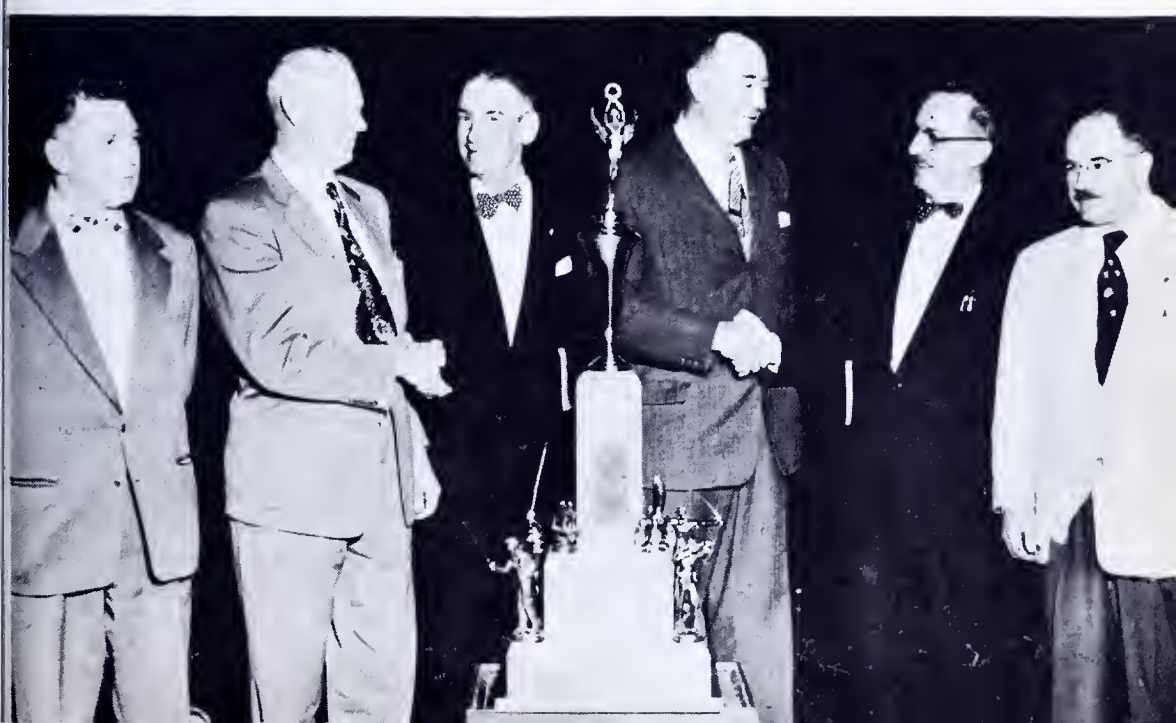
The Game Commission has both free and paid publications on Pennsylvania song birds, how to attract them and ways to build homes suitable to their needs.

Closed Season for Dog Training

Dog owners and trainers are cautioned that, except in defense of person or property, they may not lawfully permit dogs they own or control to chase or follow upon the track of any wild bird or animal between the 1st day of April and the 31st day of July in Pennsylvania.

One exception is allowed by law when the Game Commission receives and approves a fox hunting petition signed by 250 or more residents of a county, persons who held a hunting license the previous year, or who are farmers or sheep raisers, licensed to hunt or not. In such case foxes may be hunted in the county, day or night, throughout the year except for the 60-day period designated by the Commission. The closed period is April 1st to May 30th, inclusive.

FEDERATION OFFICIALS ADMIRE TROPHY symbolic of Pennsylvania Federation of Sportsmens Club's "County of the Year" award. 1954 award wound up in tie between Centre and Cambria counties. Left to right: Center county delegates Dr. Alvin Grove and Earl Neidig; Federation First Vice-President Steve Emmanuel; President Ray Armstrong; Cambria county delegates Frank Donahue and Dr. Ted Koehler.



Everett Henderson Honored By Philadelphia Sportsmen

Everett Henderson, well-known sportsman of Downingtown and for many years legislative representative of the Pennsylvania Federation of Sportsmen's Clubs, received last March the gold medal awarded annually by the Pennsylvania State Fish and Game Protective Association. The Philadelphia Association, oldest fishing and hunting club in the United States, annually honors an individual who has made an outstanding contribution to the cause of sportsmen in Pennsylvania. Its Gold Medal is symbolic of the award. Recipients have included Edgar W. Nicholson, William D. Burk, James H. Duff, Grover C. Ladner, Charles A. French, and Milo F. Draemel.

The 1954 winner helped organize many conservation associations and sportsmen's clubs throughout Chester County. He was the first president of the Chester County Federation of Sportsmen's Clubs, served as Chairman of the Pennsylvania Federation's Southeast Division, served on the Board of Directors for the State Federation, has been a member of its salary committee. Mr. Henderson was one of the original directors of the Brandywine Valley Association and has served continuously on its board. He helped organize the Chester County Soil Conservation District, is a member of the Pennsylvania Forestry Association, and belongs to many dairy clubs, beef cattle associations and other farm organizations.

Things You May Not Know

The adaptability of the common mallard has made it the chief wild duck of the world for it will breed almost anywhere if unmolested and readily adapts itself to civilization.

* * *

The common toad eats about 10,000 garden pests a year. Its work is worth about twenty dollars.

* * *

North American Wildlife Conference

Many of the conservation leaders in North America assembled in Montreal, Canada, March 14 for the annual three-day North American Wildlife Conference.

Natural resource authorities spoke there on the restoration and wise management of the continent's soil, water, wildlife and forest resources. The conference theme was "Natural Resources—A Continental Challenge."

Leading conservation officials from Canada, the United States and Mexico were present. Pennsylvania's representatives included Members of the Game Commission, the Executive Director of the Commission and members of the Harrisburg Staff. The agency's research head, Roger M. Latham, presented a paper entitled "The San Juan Rabbit Problem."

Portion of Appalachian Trail Relocated Near Capitol

Dedication ceremonies for the newly-relocated portion of the Appalachian Trail in the Indiantown Gap area were held Sunday, March 20, at the eastern end of Clark's Ferry Bridge.

The rite was sponsored by the Susquehanna Appalachian Trail Club. Murray H. Stevens acted as Chairman. Hiking clubs from Delaware, Maryland, the District of Columbia, and Pennsylvania were represented. Officials from various agencies of the Commonwealth were among the 150 persons present at the ceremony.

At the event conversation about wildlife seen and counts of game made during hiking trips emphasized why wild creatures belong to all the people of the Commonwealth. Hikers, campers, fishermen, tourists and photographers find much enjoyment in observing birds and animals under natural conditions.



OUTDOOR FUN WITH A FUTURE



Be a Soil Detective

By Ted S. Pettit

NOT long ago the President of the United States asked the Boy Scouts of America to undertake a national conservation project. Specifically, he asked the Scouts to "help arouse public recognition of the need for adequate protection and wise management of our soil, water, mineral, forest, grassland and wildlife resources." The wording of this request is interesting, and gives us all something to think about.

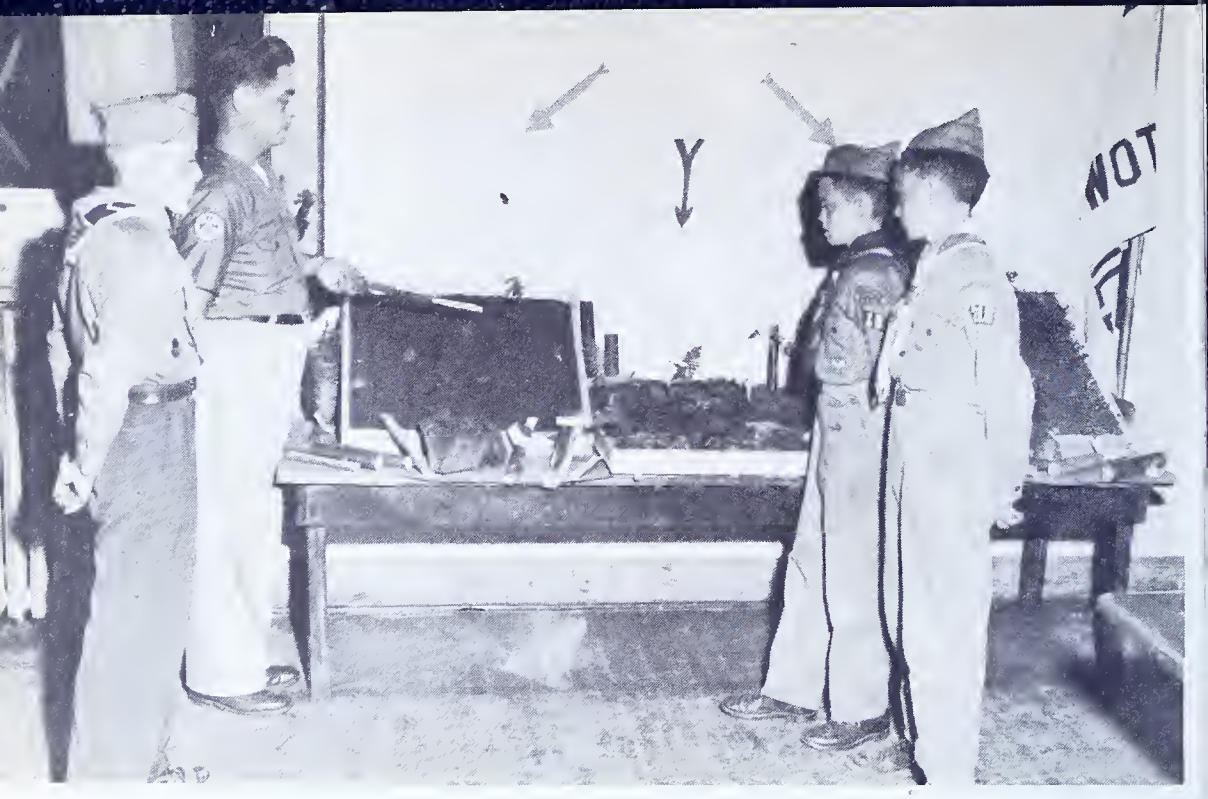
The President knew that members of the Boy Scouts, Future Farmers of America, 4-H, Girl Scouts, Campfire Girls and junior conservation clubs have active conservation programs. He knew that by taking part in these programs of youth organizations, you find out about the need for conservation and some of the practices used in the management of our resources. But he also knew that too few adults, generally speaking, had this same appreciation, and he knew that the organized efforts of youth groups might in one way or another show adults how important conservation is and what almost anyone can do to help.

It's important too, that the President mentioned *soil* first in the list of resources. For soil is our basic resource. From soil we get all our food, fiber for clothing and many of the necessities of life. In the same way that soil is important to us, it is important to wildlife. Wild animals too, find food and shelter on good soil.

Since soil is so important, let's think now about fun with a future—ways to find out about soil and then ways to "arouse public recognition" of the importance of soil conservation.

Most people who live in the country or live on farms know how important soil is. Either their living, "their bread and butter" comes directly from farm produce that grows in the soil, or they see enough of farms to appreciate the importance of good soil. But many people who live in the city or even in larger towns or villages, buy all their food in a super market and their clothing in a department store, and never stop to think that these things they get so easily once grew as grass, grain, fiber or other farm crops. Neither do they stop and think that the rabbits, squirrels, pheasants, quail or other game that they hunt on weekends or during vacations; or the bass, sunfish or trout that they fish for, are basically crops of the soil almost as are corn, beans, tomatoes or cows.

One of the best things that a group of young people can do—whether they belong to 4-H, F. F. A., Scouts or junior conservation clubs—is to build an exhibit that shows that food, cloth-



PGC Photo by Bob Parlaman

CONSERVATION DISPLAY by Scout Troop 218 of Townville, Pa., effectively points out proper and improper soil conservation practices.

ing, and wildlife come from good topsoil. But before starting such an exhibit, think about how it can be used, and build the exhibit accordingly.

Many times, stores in town will provide window space for a good exhibit. But the exhibit must be neat, tell a story clearly and quickly, and in general, be attractive to look at. In the same way, movie houses may make space available in their lobby for a good exhibit. School bulletin boards frequently may be used, as may bulletin boards in other public places. Churches sometimes have space, and an exhibit on soil would be most appropriate on "Soil Stewardship" Sunday, which is usually held in April or May in many communities. Meeting rooms of many organizations are ideal places for displays, and Exchange Clubs, Rotary, Lions Clubs, American Legions, Scout rooms, etc., welcome attractive exhibits for a week or two.

One way to make such an exhibit is quite simple, and requires as a basis large sheets of wrapping paper which may be obtained in many stores. If the exhibit is for a bulletin board, or is to be hung on a wall, some drawing talent is necessary. If it is to be placed flat on a table, some skill in making models is necessary. But the plan is this:

Spread the wrapping paper out on the floor or large table and press out any creases. Then with a pencil sketch out the outlines of a farm. Sketch the outside boundaries or fences; the pasture; the hay field; the farm woodlot; the house and barns; the orchard; the truck garden; a corn field; and any other areas where crops that grow in your area might be planted. When the lightly sketched outline contains all the elements of a good farm, use different colored crayons to fill in details. Perhaps you could cut pictures out of magazines and paste them on, to show the house barns, silo, livestock and farm equipment. But draw in trees, shrubby fence rows, corn or apple trees. Label each area so that people may recognize it quickly.

Then look through magazines and cut out pictures of a bottle of milk, a pair of shoes, cheese and butter.

Paste these pictures on cards, and place the cards on the outer edge of farm outline. Run a ribbon from the pictures to the pasture and hayfield. Cut out pictures of canned or frozen vegetables and paste them on cards. Run ribbon from the cards to the vegetable garden, cut out pictures of houses, barns or baseball bats and show how they are products of the woodlot.

Cut out pictures of quail, pheasants, rabbits, squirrels, deer, raccoons and other game and show in the same way that they too grow on the farm. If you have a pond, lake or stream on the farm, you can show how fish too are products of good soil.

An exhibit of this sort sounds rather simple and obvious—and it is. But many people still do not appreciate the importance of soil in their everyday lives, and this display may start them thinking.

Be a Soil Detective

A slightly more complicated project is one that was worked out by The Soil Conservation Service, and is especially good in the spring.

Have you ever looked at a stream after a heavy spring rain? Have you noticed that the water is brown or dark with silt and topsoil being carried away? Have you wondered just how much soil was being carried away? Here's a little detective project that will answer that question:

To start with, all you need are three one quart jars, bottles or cans; a tape measure or yard stick; paper and a pencil; and a watch with a second hand. Now you're to start detecting and collect evidence.

EXPLORER SCOUT Larry Hutchinson, of Thornton, Pa., was selected to carry report of Region Three, Boy Scouts of America, accomplishments in 1954 Conservation Good Turn Program to President Eisenhower. Report was made last February in Washington. J. K. Stern, left, American Institute of Cooperation and Hon. Tom C. Clark, U. S. Supreme Court, right, heard scouts representing every region in America speak and report on the work done in this great program.

U. S. Fish and Wildlife Service Photo



Find a spot where the stream is fairly straight and the bottom reasonably even. Then measure the width with a pole or tape measure. (Hold the pole across the stream, then measure the pole. Or, have someone on the other side hold the end of a piece of string, while you hold the other end across the stream. Measure the string.) Write down the width in feet.

Measure the depth in several places, say ten different places. Then figure the average depth by adding the ten figures, and divide by ten. Write down the depth in feet.

Now, find out how fast the water is moving. Do this by looking at your watch, while you toss a chip of wood into the stream. Walk along downstream as the chip floats along, and measure the distance the chip floats in 10 seconds.

Multiply that figure by six and you know how far the water travels in one minute. Write down that figure so you will remember it.

Next, fill the three containers with water, by dipping them well below the surface, but do not scrape bottom. Take the containers home.

As the water clears, and the sediment sinks, carefully pour or siphon off the water. Let the sediment dry thoroughly until it is just a cake of dry soil.

Then weigh these dry cakes. If you don't have scales, perhaps your corner druggist will do it for you; or you may find scales in your school science lab. Divide the total weight of all three cakes by three to find the average weight of the soil in a quart of water. Write down that figure.

Now multiply this weight by 29.9. The result is the weight of soil found in one cubic foot of water, because there are 29.9 quarts in a cubic foot of water.

Figure your answer in pounds.

Now you can use those other figures you got measuring the stream.

Multiply the width by the depth. This gives you a cross-section area. Multiply this figure by the speed of the water (the figure you got with the chip of wood). The figure you now have is the number of cubic feet of water that passes a point on the bank in one minute.

Now for the final step, and bit of evidence you need to convict the killer.

To find the weight of soil washing away, multiply the weight of dirt in each cubic foot of water by the number of cubic feet of water that passes a point on the bank in one minute. Your answer is the number of pounds of soil that is washing down stream each minute. Figure how much washes away in an hour or a day or week. It will be rather frightening—especially when you think back to the exhibit that showed how important that soil *was*. Note that word *was*. That soil can never again grow food for you—or food or shelter for wildlife. It's gone forever.

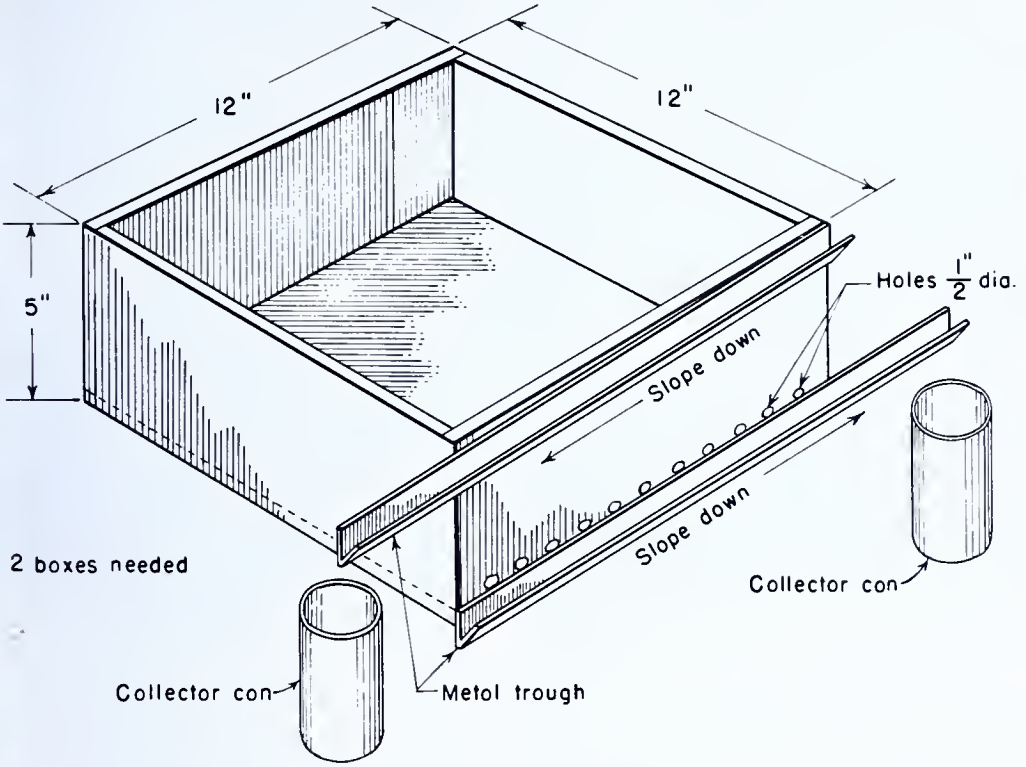
But we could also say "how important that soil is." If you are a fisherman, that soil is still important—important because it may be spoiling your fishing in the future.

That soil as it washes down stream may cover up fish eggs or the gravel beds where fish spawn. It may cut off the light in the water that plants need to grow—plants that feed tiny animals on which other animals live, animals that game fish eat. No plants, no game fish.

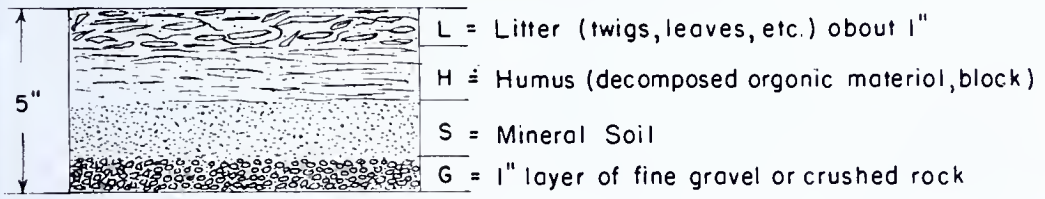
So the soil in the stream *was* important and *is* important. Game animals and fish both suffer because it's washing down stream.

But there still is another detecting job to do. Where is the soil coming from? Why does it wash into the stream?

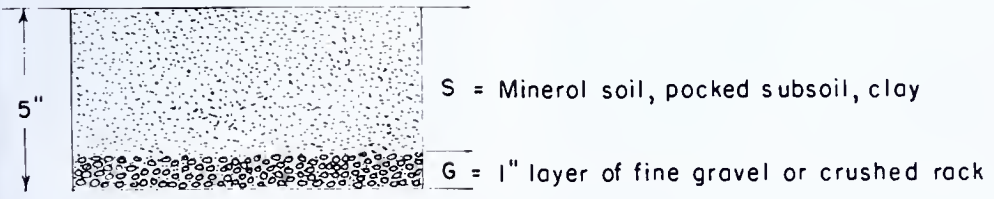
Here is another project that will show how and why. This demonstration along with the demonstration of how you found the amount of soil washing down stream should convince almost anyone of the need for soil conservation practices.



UNDISTURBED FOREST SOIL



BARE SOIL



Make two identical watertight boxes one foot square and about 5 inches deep. In one side of each box drill a row of holes about one-half inch in diameter and one inch apart, locating the bottom of the holes even with the inside bottom of the box. Using light sheet metal, make 4 V-shaped troughs, two for each box. Each trough should be about one inch deep and 16 inches long. Fasten a trough on the side of each box just beneath the holes; one end should be flush with the side of the box and the other end should extend an inch be-

yond the box, having a slight slope towards the projecting end. The other trough is fastened on the same side of the box but the upper edge is in the opposite direction from that of the lower one.

Fill one box as follows: Put a one-inch layer of fine gravel or crushed rock in the bottom of the box, then fill the box with clay subsoil usually found in bare, eroding fields. Press the soil in firmly so that it makes a good contact with the sides of the box and leaves no air pockets. This model serves as an example of a sloping, bare field.

The second box should be filled as follows: Put a one-inch layer of fine gravel or crushed rock in the bottom. From a forest where there has been no recent fire and the forest floor is undisturbed (a good layer of twigs, leaves, etc. on top of the soil) carefully remove a section of soil 12 inches square and 5 inches in depth. This should be done carefully so as to disturb the soil structure as little as possible. Place this undisturbed soil sample in the box and press down gently so that the soil makes a good contact with the sides and the gravel in the bottom. Next make a simulated rainfall applicator by punching several small holes in the bottom of a half or one-gallon tin can. Attach a three inch length of yarn to each hole so that it hangs down. Set the models up and make a test run before the meeting. Place the models on the floor with a small one-inch wood block under one side of each box so that the boxes tilt an equal amount towards the sides that have the troughs. Place a pan under the extended end of each trough to collect the water. The rainfall applicator can (with the holes in the bottom) should then be held about 4 or 5 feet directly above the box containing the undisturbed forest soil, and water poured from a bucket into this can. (Keep a record of amount of water used). Water should be applied continuously to this sample until moisture has penetrated the soil profile and begins to seep steadily out of the holes in the side of the box. The total amount of water that was applied to the undisturbed soil model should be noted. Then, the can should be held the same distance above the bare soil and rainfall applied in the same manner and quantity as on the other model.

Note that the water enters the undisturbed forest floor quite readily and seeps out the bottom clear and of good quality. The holes in the side of the box simulate springs. Note the contrasting condition of the bare soil model where only a little rainfall enters the soil while most of it runs off the surface to form muddy streamflow. Note the puddling of the soil on the bare model and also the movement of the surface particles.

Another project that will show you, and other people, how forest fires and poor farming practices lead to soil erosion, muddy waters and poor fishing is a "Conservation Chart" which you may get for 60c from The Sport Fishing Institute, Bond Building, Washington, D. C. or from the Boy Scouts of America, New Brunswick, N. J. This is a large chart in full color on which you paste cut-outs of fish and game animals, and on which you paste labels of captions which tell how good farming and good forestry means to good hunting and fishing—and how erosion of soil means poor hunting and fishing. The chart is attractive and it tells its story clearly and simply.

Your county agent or Soil Conservation District conservationist can show you pamphlets that tell what farming practices are necessary to prevent erosion in your area. Or write to the Soil Conservation Service, Washington 25, D. C.

Soil is our most important natural resource—as long as it is on the land where it will grow food, fiber and provide food and cover for wildlife.

How to Build a

Sportsman's Camp Table

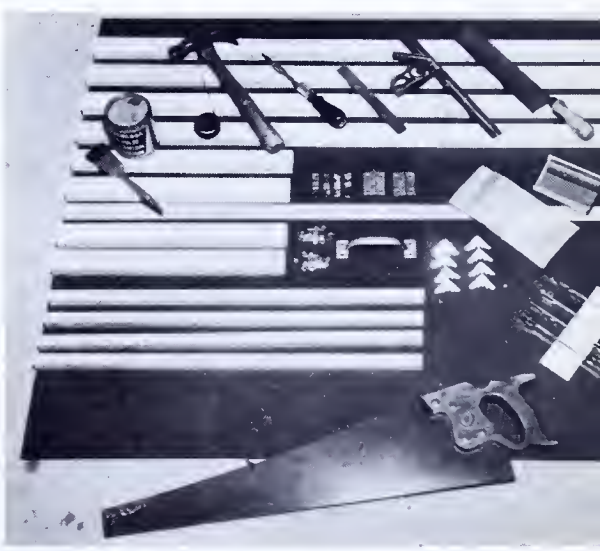
By Roger Wrenn

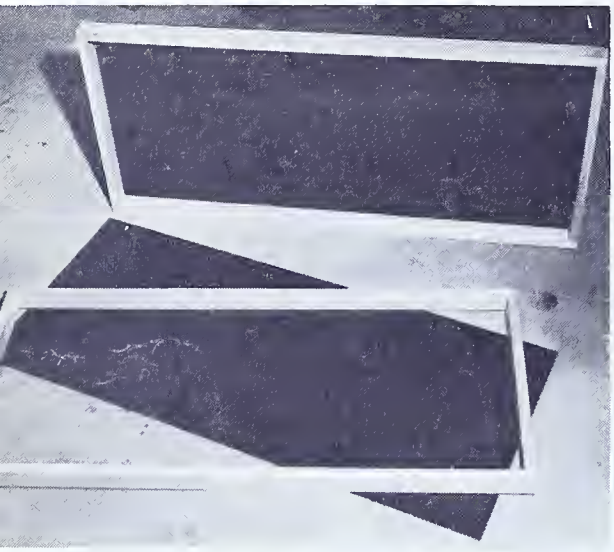
Outdoor Photographers League—Photos by author

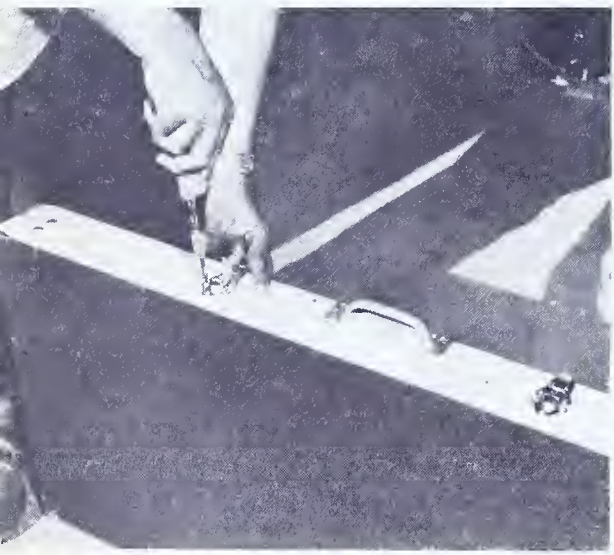
HERE is a portable sportsman's camp table, which tucks away neatly in the trunk of the car, yet can be built with ordinary tools for less than five dollars.

The only tools and materials needed are a steel rule or measuring tape, hammer, screw driver, wood file and sandpaper, a small square and a small saw. See Photo No. 1.

I measured the width of the car trunk, and found that my table, when folded and laying flat, should not exceed 46 inches. This dimension will vary, of course, with the type and model of car. Next, I took ¾-inch by 1¾-inch stock, and cut four pieces 46 inches long. Since the folded table width measured 18 inches, I cut four more pieces, 18







inches long, from the same stock. These I nailed together to make two frames (Photo No. 2). Next, I cut two pieces of masonite, 18x46, which were nailed to the frames as shown in the upper half of Photo No. 2. These two sections were hinged on both sides for strength and hardware secured, as shown in Photo No. 3.

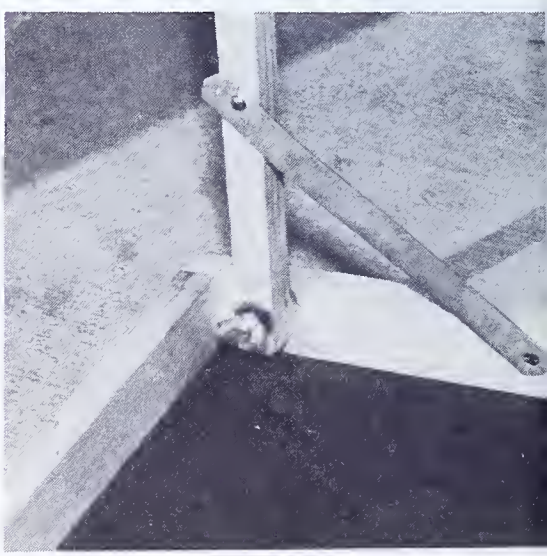
The legs—32 inches high, or cut to your measurement—are secured with wing nuts and bolts (Photos Nos. 4 and 5). After the table was assembled, I found that it was fine for card-playing or limited picnic use, but not quite sturdy enough for rugged camping use.

I took the leg assembly off, and procured four 32-inch lengths of ½-inch threaded pipe, with fittings (Photo No. 6). These can be obtained from any hardware or plumbing store. On the ends of the pipe legs, crutch rubbers were placed to keep the pipe from cutting into the ground or sand.

Small metal folding chairs were purchased in a sporting goods store. These chairs fit within the table-top frames and, along with the legs, can be folded up and out of the way for convenient carrying (Photo No. 7).

Photo No. 8 shows how the folding table looks when closed and car-

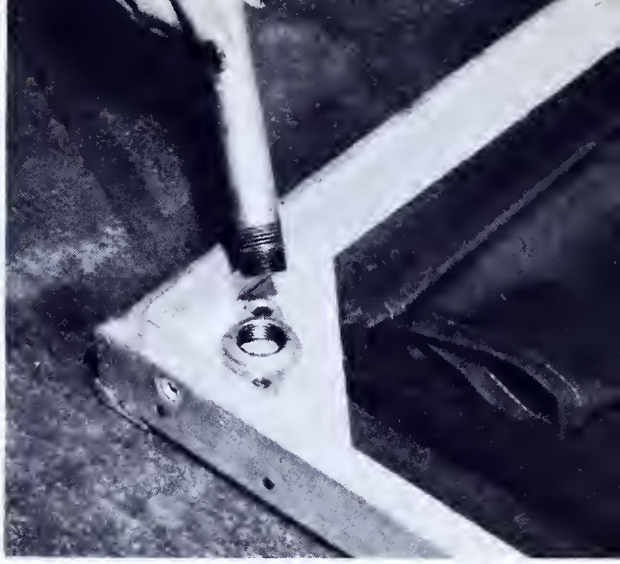




ed. Note the corner protectors, sold
ı any dime store, which absorb
lot of the bumps. The whole table
given two or three coats of spar
arnish to protect it from the weather.

Photo No. 9 shows how the table
an be stored out of the way in the
ear of the car trunk and is strong
nough to support the weight of
ents, sleeping bags and other gear,
/hich might be carried on any trip.
keep my camp table in the car trunk
t all times, since it takes up so little
oom.

Photo No. 10 shows the table in
ıse. The table top, unfolded meas-
ıres 36x46, and is sturdy enough
o filet the toughest bear steak.











Dear Sir:

So many so-called sportsmen are ready to condemn the game protector that I thought you might be glad to know the other side. During the past open season for varying hare (snowshoe rabbit), I happened to shoot at a hare. Thinking I had missed, I took up my dog since I believed it would be too late before I got another chance at the animal. While I was in the act of picking up my dog, a man approached me and made a remark on how well the dog had run the hare. He also told me he had no dog and was only looking for tracks. At this point, I left for my car, not knowing who the man was. Later I was informed the Game Protector was looking for me. When he found me, he had the hare at which I had shot. He informed me that he had found blood and followed the trail under the laurel and brush despite the heavy, wet snow and found the hare dead. He had noted my license number and therefore knew where to find me. Believing that I would like to have the hare, he had traveled at least 20 miles that same night to return it to me. Can anyone think of a better show of sportsmanship than this? His name is Bill Fulmer and his district is in Carbon County.

Sincerely,
Edgar T. Zuber
R D 4, Lehighton

Dear Editor:

I read GAME NEWS regularly and think it's about the best dollar I spend each year. In the February issue you published an article on building bird nesting boxes. I have built nesting boxes for the last 20 years and by watching the birds, have found that if you put a small platform just outside the entrance hole, the bird has a much easier time in making its entrance. I also bore about four half-inch holes above the nesting line on every side for light and ventilation. Another thing I do is always face the side of the box with the entrance hole due south. This stops the sun from shining in the hole and also protects the entrance from most rains driven east or west by wind.

Yours truly,
Lynn Wachob
Luthersburg, Pa.

Dear Sir:

My son and I have kept a record of all the animals killed on the highway we travel to and from work each day. We live 3½ miles north of Butler on Highway Route #8. From November 1, 1953 to November 1, 1954 there were 118 rabbits, 1 fox, 4 raccoons, 6 opossums, 4 dogs (all hounds), and 2 ringneck pheasants killed on this stretch of road—a total of 135 pieces of game. The dogs were included because they belonged to some sportsmen just as the game. The 118 rabbits are only the ones that we saw; no one will ever know how many crawled off the road and died or how many baby rabbits were left to die when their mothers were killed. This is something to think about when we go hunting in November. Maybe it's one reason we don't have better hunting in the woods and fields. The least a driver could do is try to miss this game instead of killing it on the highway.

Yours truly,
Ralph A. Lang & Son
Butler, Pa.

Dear Sir:

I had an unusual experience on the opening day of the 1954 trout season. I had just parked my car and was walking across a small field when I noticed a fisherman standing in the water, making motions about something on the streambank. As I got close, I saw a large ringneck cockbird standing close to the angler. The man told me the bird had followed him along the stream. After we had talked awhile, he went on his way down stream and I waded up. To my surprise the bird followed me, keeping close to the water's edge, chattering all the while as if he wanted to tell me something. When I would stop, he would. When I climbed on the opposite bank, he would fly across to me, even getting close enough to pick my hand (I have the scars to prove it). When I crossed over again, he would do the same. This kept on for perhaps half a mile. I never heard a pheasant make so much chatter and clucking. I finally turned around and headed for my car. As we got close, he gave out some war-whoops, turned back to the stream and disappeared into the brush where I had first seen him. In all the 30-some years that I have been hunting and fishing, raising hundreds of pheasants, doing considerable conservation work and studying all species of wildlife, I have never seen nor heard the likes of this. It was an experience that I won't forget for a long time but then, leave it to Nature to do the unbelievable.

Sincerely yours,
Roland C. Fehnel
Northampton, Pa.



BOY SCOUTS of Troop 2, Connellsville, Pa., conducted winter feeding of wildlife campaign as part of their Conservation Good Turn project last winter. Led by Earl Graham, member of camping and activities committee, James Addis, Deputy Game Protector, and Scoutmaster Frank Baxter, these scouts distributed corn and other feed throughout local areas.



POINT!

By Horace Lytle

Illustrated by Ned Smith. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania. 1954.
275 pages. **Price $5.00**

Here is a volume that's a "natural" for all those sportsmen who go afield with a dog. It comes from the pen of a man recognized as an authority on several breeds of hunting dogs, especially pointers and setters. Horace Lytle is also famous for his knowledge, interest, and writing on field trials. In fact, he is one of dogdom's national figures.

In this, his latest book, the author seeks to entertain as well as present many interesting facts not so generally known by sportsmen. He is a rare teller of tales and no doubt many of you have enthused over his short stories printed in this magazine. In this book he combines his tremendous knowledge of bird dogs with his ability to spin a yarn.

FAVORITE FLIES AND THEIR HISTORIES

By Mary Orvis Marbury

Illustrated with line drawings, photographs, and 32 color plates. Published by Charles T. Branford Company, 551 Boylston Street, Boston 16, Massachusetts.
534 pages. **Price $15.00**

This is a de luxe edition of an old-time fishermen's classic which, for many years, has been out-of-print. The brilliant craftsmanship of the original version is faithfully reproduced in all its color and accuracy. The volume is a standard history of 291 favorite fishing flies. Each is accurately explained, giving its origin and make-up; each is illustrated in full color from plates produced by skilled engravers. The book is not intended as a fly-tying manual but it does contain much advice from many anglers of the past as to their methods and experiences. The author was the daughter of Charles Frederick Orvis of Manchester, Vermont, famous to this day among professional fly-makers.

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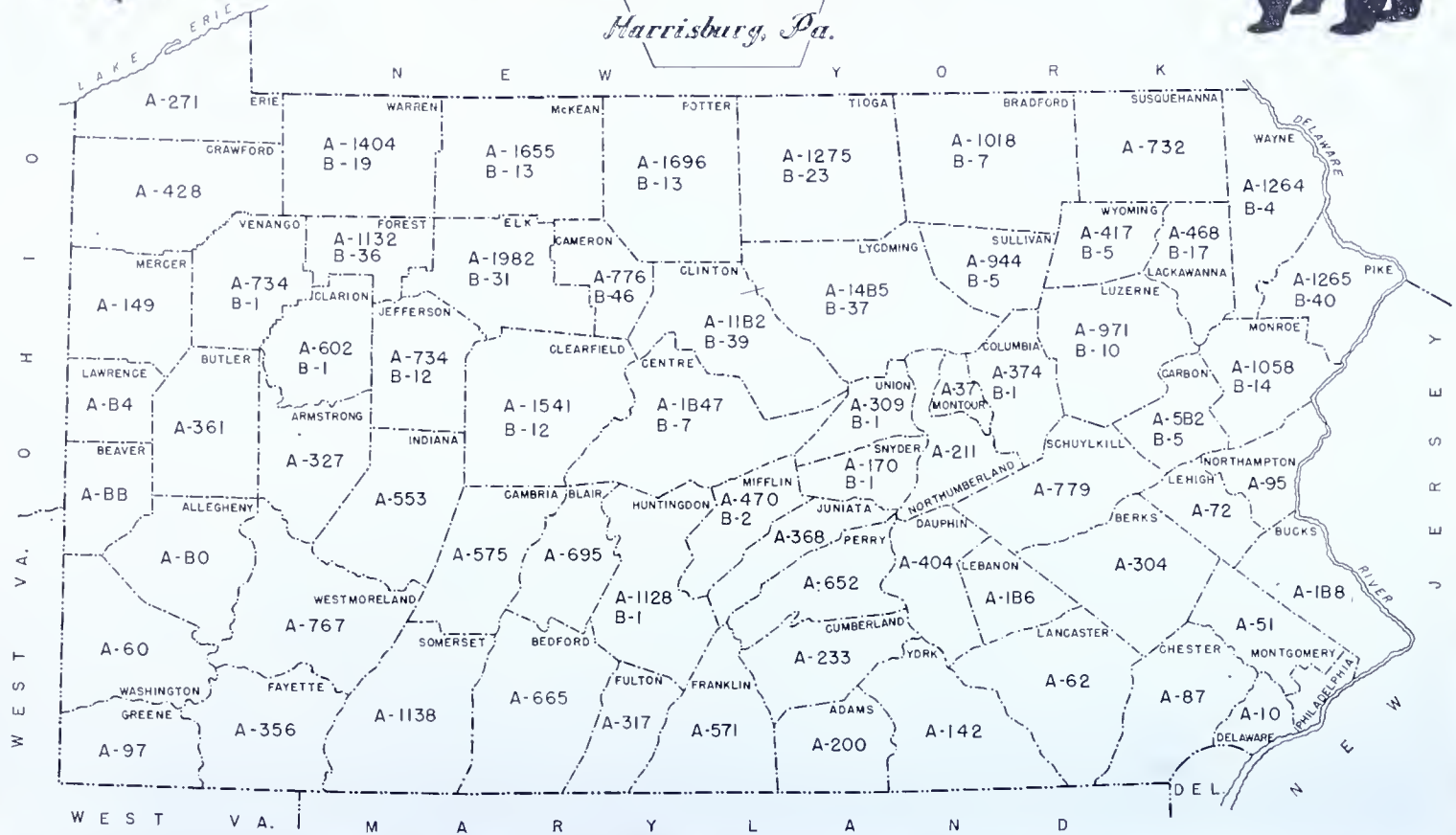


1954 DEER & BEAR KILL



Pennsylvania Game Commission

Harrisburg, Pa.



TOTAL - LEGAL ANTLERED DEER KILL 40,925

A - COUNTY UNKNOWN ... 47 (Included in total)

KEY

A - LEGAL ANTLERED BUCK DEER KILL. (Tag count)

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THE STORY BEHIND THE COVER

DON'T look now, but there's danger in that woodchuck sizing up the situation on this month's front cover. Surprising as it may seem sooner or later some human being is going to look just like him. And that's when an otherwise wholesome, healthy sport may run into trouble.

The hunter in this particular scene will probably never have to worry, of course. That fluorescent red cap (maybe it doesn't glow on the cover but that's only because of printing ink limitations) is near perfect insurance against being mistaken for Pennsylvania's most popular summer game animal. But, unfortunately, not all woodchuck hunters are as careful of themselves or as considerate of their fellow sportsmen.

That's no excuse, however, to the veteran varmint hunter. He takes great pride in his equipment, his knowledge of groundhog habits, his stalking skill and most of all in his safe and sportsman-like shooting. In woodchuck hunting, it's the distance and difficulty of the shot that becomes the matter of pride.

Probably no animal in North America is more hunted, hounded and harassed than the woodchuck. With poison, rifles, shotguns, gas and even flamethrowers, landowners have been bent on exterminating him for years. In all innocence, but with alarming success, the little marmot's activities have broken more livestock legs and up-ended more tractors than are good for his popularity rating. But the woodchuck, perfectly adapted to his environment keeps meeting all comers and coming back for more.

For one thing, a groundhog is a past master at digging in. His underground shelter is so complete and comfortable that he's probably the only animal on earth right now not worried about the next war. Secondly, his needs are simple—almost any old field or woodlot will do. And finally, there's nothing wrong with his reflexes. The least indication of danger sends him scurrying back below ground.

That explains, by the way, why the second woodchuck on this month's cover may be around next year. In the split-second it took you to turn this page, he probably disappeared down his burrow, leaving our red-capped rifleman looking for still another shot. And that also explains why woodchuck hunters always come back again and again. The more difficult the approach to shooting position, the longer the shot, the more fun there is in this summer sport. But to make it safe, as well as fun—wear a fluorescent colored cap. Be sure of your target before you shoot and be sure you don't look like a target to somebody else.

PENNSYLVANIA Game News

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June, 1955

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Cover Painting
By
Ned Smith

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Game Management Depends On You!

By Will Johns

Editor, Pennsylvania Game News

What Is Game Management?

IN simple terms, game management is "the art of making land produce sustained annual crops of wild game for recreational use." Its primary objective is to improve hunting and provide more game for landowners and sportsmen.

Game management may sound like a complicated subject. Professional game managers who receive college degrees in this field go through a course of study that sounds like a scientific nightmare—zoology, botany, ecology, ornithology, parasitology, animal pathology, and many more technical subjects. Yet neither they nor anybody else knows all the answers to the problems of game management. And the amazing thing about this important and popular subject is that its success depends very much on YOU!

It's true, of course, that many people are trying to manage game. State and federal conservation departments, many business and professional societies, sportsmen's clubs, youth groups and countless others are devoting all or much of their time and talents to protect and provide more wildlife. But there are still many things that you, as an individual, can do to help.

If you are willing to spend some of your spare time outdoors, to roll up your sleeves and work, to accept advice and suggestions from those who know more about the subject than you do—if you have the ability to win friends and influence people and, above all else, the sincere desire to do something constructive for conservation, then you, too, can be a game manager. In fact, you can be the BEST game manager conserva-

tion ever had.

This article is designed to suggest ways in which you, personally, can help in sound game management. It contains basic information which will enable the average individual or group to provide more game and better hunting for the future.

If you own a farm, tract of forest land, or other large area away from city or town, there is ample opportunity to put game management to work. But even if you live in a city apartment, chances are you know someone who does own land in hunting territory. Just ask his permission, enlist his cooperation and support, and go to work.

Why Game Management?

Game management, when you get right down to it, is actually land management. True, there are laws and rules and regulations which control the harvest of game but this is only one phase of management. Such restrictions, by themselves, do not directly produce game.

Wild birds and animals result from just two things—the ability of the species to reproduce and the capacity of the land to keep wildlife populations alive. And the capacity (usually called "carrying capacity") of any given unit of land also depends primarily on two things—food and cover. The amount, quality and distribution of wildlife food and cover plants actually determines how much game can be produced and maintained.

Are there limits to this production? Well, let's suppose that there are no limiting factors, that the potential high rate of increase in all wild animals and birds is allowed to work unchecked. We will eliminate all causes of death, provide suitable food in ample amounts, control the weather to maintain ideal temperature and water conditions. Now let's take a pair of cottontail rabbits, place it in this hypothetical "happy hunting ground," assume the female will bear 20 young each year and watch them build a theoretical, but mathematically possible, rabbit population. Here's what would happen:

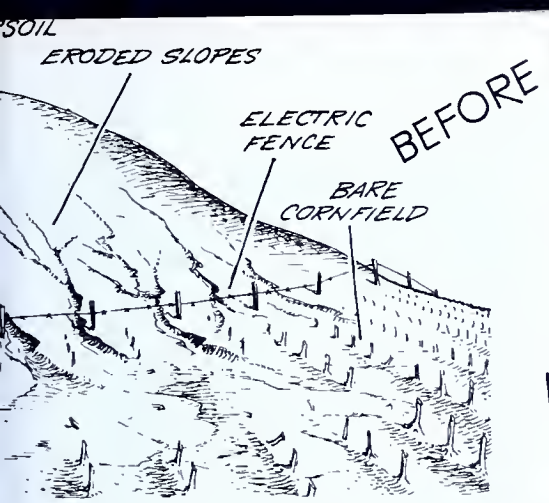
	Rabbits
End of 1st year	22
End of 2nd year	242
End of 3rd year	2,662
End of 4th year	29,282
End of 5th year	322,102
End of 6th year	3,543,122
End of 7th year	

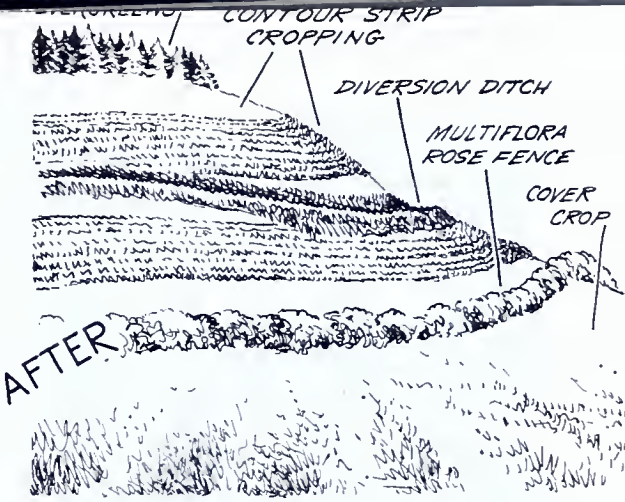
Figure omitted to conserve paper!

Obviously, this fantastic growth in rabbit populations never takes place in the wild. Nature's laws rule out any such results from rabbit multiplication. There are normally many factors which hold down game populations. Predators, disease and parasites, human activity (hunting, farming, forestry, industry, pollution, etc.), weather conditions, lack of food and shelter—all these combine to limit wild game numbers. Occasionally, a wild bird or animal may die of old age but they are very much the exception to the rule. The average newborn young of any small game species lives less than a year; those of big game animals probably less than 3 years.

The significant point, however, is that YOU can reduce the effects of all these limiting factors except one—weather. And even the effects of weather can be modified. We can do all this through our use of the land, by providing more and better food and cover for wildlife. Given suitable nourishment and shelter, game birds and animals can escape most predators, can resist many diseases and parasites, and can live through all but the worst weather.

The way to game abundance, then, is a man-made way. The keys are FOOD and COVER. The time to use these keys is NOW!





Where Do We Start?

The first and only place to practice game management is right on the land—your land, the farm where you hunt rabbits and ringnecks, the mountain around your deer camp—in fact any land that is not covered with civilization's structures of cement, wood and steel.

Let's take cultivated land first. In Pennsylvania there are over 7,000,000 acres under cultivation, almost one-fourth the total area of the state. This the land upon which the farmer grows his crops—corn, wheat, potatoes or anything else for which there is a market.

What can be done with this cultivated land to make it produce more wildlife? Can we change farming methods and crop marketing so that game birds and animals are given a better chance of survival? Should any game manager try to alter good farm management plans and practices to produce more game and better hunting?

The hard truth is that all these questions must be answered with a qualified, but emphatic, NO! Why? Because modern farming is already based on conservation. Most farmers today, if they really want to be successful and earn as much from the land as possible, are using cultivation methods that automatically produce more game. Some of these methods—the ones valuable from a game management viewpoint at least—are:

Crop Rotation consists of growing different crops in a regular sequence. The farmer rotates the crops grown on a given field because he wants to keep the soil from eroding and also because it results in higher crop yields per acre. How does this help game? It puts more vegetation on the land for a greater part of each year, thus providing more food and shelter for wildlife.

Contour Strip Cropping protects fields from loss of soil by alternating strips of close-growing crops like clover with strips of cultivated row crops like corn. Parts of a strip-cropped field remain in cover most of the year, giving the field a much greater carrying capacity for wildlife than the same field planted to one crop.

Winter Cover Crops are seeded in corn, potatoes or other row crops after the last cultivation. The resulting green growth and ground cover protects the soil and also provides important food and cover for wildlife.

Diversion Ditches are shallow, broad ditches dug across sloping fields to carry off surplus water and protect fields below from erosion. They are usually seeded to a permanent type grass-clover mixture and are mowed to maintain a tight sod. These sod strips become travel lanes and nesting cover for wildlife.

Woodland Management on modern farms has timber production as the primary objective but also involves practices beneficial to wildlife. Good forestry requires all trees except "den" trees should be harvested when they reach maximum growth. An uneven-age stand is the result; wild-

life benefits from the better food and cover conditions which naturally occur. Keeping livestock from grazing in woodlots and providing year-round fire protection are two other practices important to production of both timber and game.

Orchard Management, as practiced by "conservation" farmers, includes the planting of cover crops like sweet clover, ryegrass and millet to protect and improve the soil. Pure ladino clover is often seeded and maintained as a permanent sod cover in apple orchards. These cover crops increase the value of the orchard and at the same time become food and cover for wildlife.

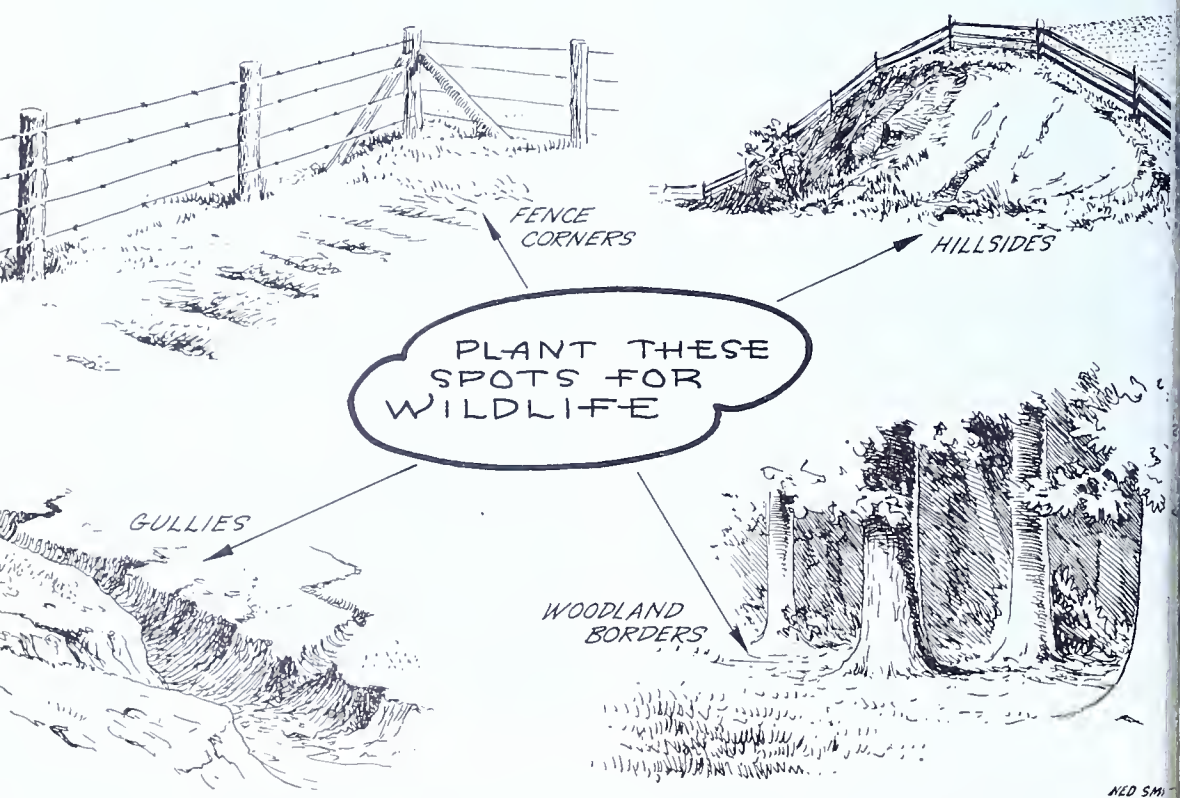
Evergreen Plantations are being made on many farms today to give farmers an additional cash crop of "Christmas" trees. Such plantations furnish excellent wildlife cover.

All these uses for farmland are aimed at conserving the soil, protecting the water supply and increasing the yield of field and woodland crops. They mean more money in the bank for the farmer which, after all, is his primary consideration. Sure, most farmers like to have wild birds and animals living on their land but in our modern world, first consideration must be given to earning a living.

Here's where you, as a game manager, come into the picture, however. If the farmer on whose land you are going to work is not already a "conservation" farmer—if he doesn't use crop rotation, strip cropping, winter cover crops and all the rest—convince him that these practices really mean more money for him, that a complete, modern land-use plan for his farm will pay-off. Contact your local Soil Conservation District representative, your game protector, fish warden, agricultural extension agent and district forester for help and advice.

The Land Left-Over

Now we've taken care of cultivated land, the fields and forests on any farm that are producing the food and fiber so essentially to mankind. Most of the land on a modern farm will be under cultivation. But there is always some land left-over. This is the land on which the farmer simply cannot grow crops. Maybe it's a hill-side



too steep for tractor and plow, perhaps it's a marsh area, a pond, a rock out-crop, even bits of good land that are cut off from the rest of a field by a stream, drainage ditch or gully.

Yes, Pennsylvania has over seven million acres under cultivation but there are over 15,000,000 acres in total farmland. What's happening on those other 8,000,000 acres? What's happening on all that "left-over" land? Much of this vast area is just lying idle, not because anyone is at fault but simply because it's not economical nor practical to apply modern farming methods to it. And much of this land is or could be "wildlife land." Let's take a look at some of it and let's go to work!

Drainage-ditch and Stream Banks are "naturals" for wildlife. Water is present and food is usually near in cultivated fields. Unprotected, these banks are subject to erosion. Good soil is often robbed from cropland after every heavy rain storm. But seeded to a good grass-legume mixture, these banks will save the soil and at the same time be good for wildlife. A row of multiflora rose, spaced 3 feet apart, planted along the top of the bank will give added protection and increase wildlife food and cover. Shrubs, including bush honeysuckle, elderberry, red osier dogwood and silky dogwood may also be planted along bank tops. On the banks of larger streams, you can plant basket willow and shrubs like red osier dogwood, silky cornel, Russian-olive, nannyberry and highbush cranberry. Livestock should not be allowed to graze in these areas.

Fence Rows and Hedges are used on every farm to separate fields or to enclose pastures. The fence row most often seen today is made of barbed- or woven-wire, with single or double strand electric fences becoming more and more popular. From a game management standpoint, these "dividing lines" add little or nothing to living space for wildlife. But from a crop production viewpoint, the farmer certainly can't be blamed for using such fencing. By doing so he can plant a few more rows of a "cash" crop. More and more, however, modern studies are showing that woody or brush fence rows have many advantages over the "clean" fences—advantages that may mean more profit in the long run. They harbor more beneficial birdlife than do grassy fences, are less expensive to plant and maintain, and are havens for game.

Now a new kind of fence is gaining popularity—a living fence of multiflora rose. It is capable of forming a livestock-proof barrier that requires no expensive wire, needs no pruning or trimming and doesn't sap soil fertility. Multiflora is attractive, makes good wildlife cover and provides some emergency wildlife food.

Marshes, when properly treated and managed, can be wildlife wonder areas. An acre of marsh may yield more actual cash in the sale of muskrat pelts than the same acre drained and put to the plow. Other marshes can be developed for waterfowl. Briefly, marsh management for wildlife consists of regulating water depth, preventing burning, halting grazing by livestock, and making plantings to improve the area. Plants you can use include reed canary grass around the edges and wet-site shrubs like silky dogwood, basket willow, red osier dogwood and highbush cranberry. If you want to manage the marsh primarily for waterfowl, plant such things as wapato (duck potato), wampee (duck corn), wild duck millet, sago pondweed, wild celery, wild rice, giant burreed, water shield and bulrush.

Farm ponds are usually constructed to serve as fish ponds and to provide fire protection to farm buildings. Their banks, however, can provide food and cover for wildlife when planted with wet area shrubs and vines. The shorelines can be planted

to aquatics for waterfowl and the entire area fenced with multiflora rose or other shrubs.

Shelterbelts and Windbreaks are planted in crop fields to help control wind erosion and the drying effect of wind on soil, or around farm buildings to protect them from winter wind and snow. By planting at least two rows of Norway spruce, Austrian, red, Scotch or white pine at 8 x 8 feet spacing in the center, and bordering these evergreens with two or more rows of Amur privet, Tatarian honeysuckle, or other shrubs spaced 3 to 5 feet apart, both a windbreak and a "wildlife production area" can be established.

Field Borders are narrow strips of cropland along the edges of woodland or fence rows. Large trees often shade these areas and crop growth is poor. This unproductive land, usually 25 to 35 feet wide, can be planted with low growing shrubs like bicolor lespedeza. You can also seed them to sericea lespedeza or to permanent type grasses and clovers.

Woodland Borders usually contain tall trees that shade cropland. By cutting and felling these larger trees, crop production can be increased. At the same time shrubs and vines that produce food and cover for wildlife will naturally become established or can be planted. Often the timber harvested from the borders will pay for the operation. Tops and limbs should be piled in the border to provide rabbit cover.

Odd Areas are places on the farm which cannot be cultivated, but upon which you can successfully practice game management. Rock out-crops, sink holes, old foundations, gullies, headlands (areas at the ends of fields where cultivating equipment is turned around), edges of roads and lanes, or any other small area of "waste" land can all be put into production of wildlife. These odd areas usually are not larger than 3 acres in size. Anything over that probably should be put into timber production, using only the edges for wildlife production.

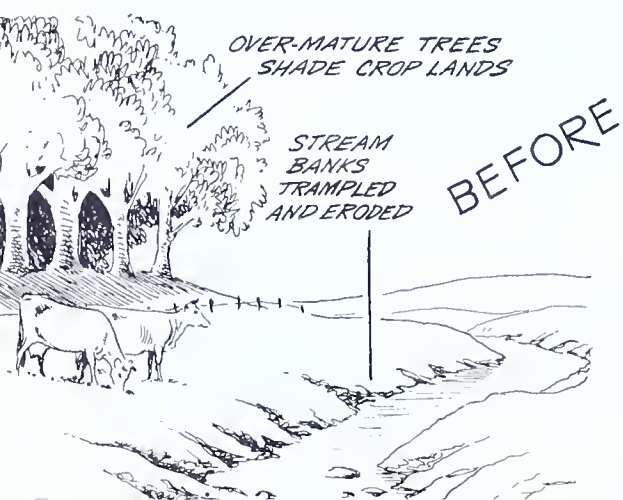
This, then, is the land on which you have to work. It's the first and only place to produce more game, better hunting, and most of all the best in farming.

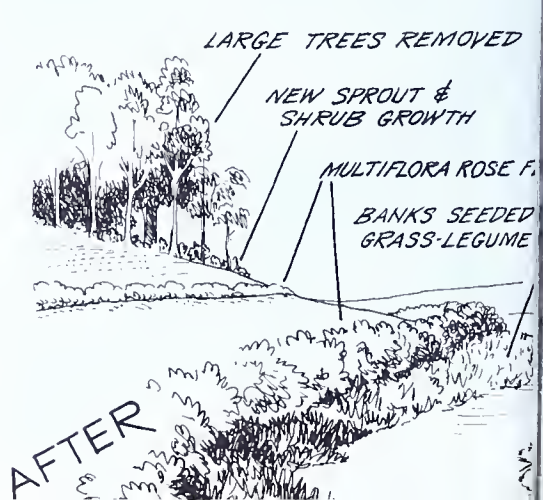
Game management is not easy. But it's definitely worth the work you must put into it.

Are There Any Questions?

Certainly, you have questions—probably lots of them. This article isn't big enough to answer one-tenth the questions you should have about game management, about what you can do for wildlife. In these few pages we have simply tried to cover the important highlights of the subject, answer the most basic questions, and most of all encourage you to go to work on game management.

For further information and valuable advice, you should go to your local conservation officers—the game









Want More Rabbits?

By Robert D. Parlaman

Conservation Education Assistant, Northwest Division

DO you sometimes feel there is little that individual sportsmen or organized clubs can do for wildlife? Do you think that game management is complicated and can only be done successfully by "experts"?

Here's a simple but successful cottontail rabbit management technique that can be done by anyone. It doesn't require expensive equipment, doesn't take much time, and best of all, produces more rabbits.

This simple practice was tried by Game Commission personnel on State Game Lands No. 117, in Washington County. A four foot swath was mowed through heavy briars with a scythe. A few small trees were cut and the stumps removed. The strip, resembling the letter "S," was then raked clean of dead sticks and stones. It was prepared for mowing, much as you would prepare your own lawn at home in the spring. When the competition was eliminated in this manner, the clovers and other grasses already present in the strip began growing. They provided that much needed and basic food of the cottontail. With the remaining cover of briars close by, the combination was ideal.

The strip was mowed twice weekly with a conventional type lawnmower. The expected guests were there, of all age groups. Nine were observed in a 50 yard strip, eating the new succulent growth of clover and grasses but still just one jump away from safety in the briar thicket. In the majority of areas available for such a practice, the clovers and grasses are already present but unable to grow because of competition by other plants. Where they do not come up voluntarily, some effort will be needed to prepare a seed bed and do some liming and seeding.

This is a wildlife management practice we see all about us every day. After all, don't you often see many rabbits on well-kept lawns, in parks and on golf courses. But we must apply it where we want the cottontail.

Simple but successful—try it!

Outdoor Reveries



Sylvan Mystery

By John H. Day

WE drove some 500 miles over the weekend, just to hear the veeries sing in a forgotten bit of enchanted swampland deep in the northern moraine country. For one whole glorious day we waded around in the tangy redolence of Labrador tea in full flower, dodging alder tangles and straddling beaver canals while the lovely cathedral music of the tawny thrushes chimed in sylvan mystery all about us. Deep in the heart of the fen we came to an open area of quaking bog, centered by a sinister-looking pool of dark swamp water which lay there sullenly in the bright sunlight, while pitcher plants and cotton grass struggled for footholds in the sphagnum-lined deer paths tracing the springy edges.

The wood thrush is a silver-fluted impresario, and the devotional strains of the hermit thrush must surely be patterned on the music of the angels. We drove to a neighboring park to hear the hermits sing on the mountainside in the twilight. The countryman lacks words to describe all that he feels and thinks when he hears the hermit thrush in the gloaming woods.

The soft mellow fluting of the veery is something else again. There is no other woodland strain quite like it. It is a sort of vocal will-o'-the-wisp, reflecting all the sweetness and wildness of the forest in chromatic descending thrills which might be best described as waterfall music. It has a liquid quality in keeping with the moist swampy woodlands which the tawny thrush frequents.

It seemed fitting that we heard the veeries during the Memorial Day weekend. This mystic bird often chimes at night. The weird sweet strains floating through the woods at dusk sing taps in a bugle call full of faith and longing, at once so sad and so sweetly hopeful that it seems to voice all human sorrow for mortality. All day the good earth and the brave blue sky had held memorial service, and as the last note of taps rang from the throat of the veery deep in the sheltering wood, the night took up the service with wet eyes.

Where the veery sings, the country-



man seeks other treasures hidden in the swamp country. We found the pink lady's slippers in full flower across a wide stretch of the open woodland. The beautiful little painted trillium was blooming, as was the tiny dogwood called the bunchberry and the violet wood sorrel. High bush blueberry blooms betokened the luscious fruits which no man but a confirmed bog trotter will see.

We loafed for a breather on a hemlock shaded knoll, and while we batted aimlessly at the swamp flies and the mosquitoes, I heard a crow cawing off through the trees. I got out the crow call and spoke a few words of fighting talk into it. In a moment the place was a melee of angry ebon birds, circling low overhead and sizzling the woods with crow profanity. Usually the crows take off for the next county when I try to call them in.

Part of this fascinating swamp has been taken over by a beaver colony. Beavers have been asserting the right of eminent domain since they first gnawed on an aspen twig. They throw up their dams and lay out their haulage canals with complete disregard of fence lines or corduroy roads.

I was sweating my way through a massive alder tangle when I heard a splash which sounded like an oversize brick had been tossed into a pond somewhere close by. Working carefully in that direction I broke out of the thick growth into an area of "drowned" timber, where the impounded water had flooded a wide expanse. Down the far side swam a large beaver, pushing a stick which was either intended for an afternoon snack, or as reinforcement for the dam which had been cleverly engineered through the depths of that dark swale.

A spirit of mystery always broods over the hidden bogs of the moraine country. Only occasionally does the foot of a countryman disturb their quaking, sinking surfaces. A man may wade all about in them even to the edges where the billowing moss yields to the scarcely less stable surface of the dark ponds. To do so in safety a man must know them intimately, else he will suddenly go down below, to become a nodule in the peat, and perhaps be dug up a thousand years from now and put in a museum.

When the yellow breasted chat becomes so bemused by the witchery of the night that he keeps his odd music box going right on through the dark hours, then the countryman knows that another June has arrived. From the full muted darkness of the valley behind the house comes this queer midnight serenade, a jumble of whistles, clucks and other ill-assorted sounds delivered with monotonous repetition. By day a polyglot clown of the briery thickets, the chat becomes slightly "fey" in the moonlight, revealing an ancestry familiar with leprechauns and others of the "little people."

The rose month is blessed with one of the loveliest names of the calendar. It rolls musically across the tongue. In a very real sense the month of

June is a month of rededication. No man who ever lives through a June should have any doubt as to the presence of the living Creator amid such beauty and fulfillment.

Surely, sometime, the rough winds which blew the breath of May clear out of the countryside will blow themselves away and we can settle down to full enjoyment of the poets' month. June calls for gypsy breezes, roaming about touching a leaf here and a leaf there. Gypsy breezes which carry invisible burdens of scent and sound, bringing to all countrymen the fragrances of the earth and the songs of the birds.

The birds delight to waylay the dawn in June. Even with daylight saving time the dawn hereabouts comes early, very early as the summer solstice nears. Among our feathered neighbors the chipping sparrow seems to be the first on deck. Before the sun sets foot across the horizon he is chipping away at his roundelay.

Then from a treetop somewhere close by will come a burst of song from the full throat of a robin. This chorister pipes but a single strain when suddenly from all about we will hear the mingled melody of a great chorus of robins shouting clarion notes of jubilee. It's worth getting up early of a fresh June morning just to glory in the sunrise and to hear those robins sing.

For a while the robins have the overture to themselves. Then we'll hear a songsparrow, followed by a chorus of these little fellows in the next breath. Close on the heels of the sparrows come the notes of some of our warbler residents, followed by the chewinks and redbirds and thrashers, not so early risers by any means.

Very late in the program we'll hear the catbird. He's not too much interested in waylaying the dawn. He's a real musician and most clever bird, but like many clever people, he is lazy. As I head for the garage I listen for the tanager on the far hillside.

The nymph Shadow comes fully into her own when June crosses the threshold. Once again the countryman sees her cool circles beneath the trees in the meadows, or her deeper and cooler retreats in the woods. The eye revels in solid masses of shade and the tired body longs to stretch out there for daydreaming. "In the shade's where glory is!" sang the Hoosier poet. He knew, for he was a real kneedeep connoisseur of June days.

For the real essence of June the countryman seeks out the favored spots where the wild rose blooms. Pink, delicate in fragrance, so fragile in its beauty that its petals fall at the slightest jar, the June rose of the wayside is surely one of the loveliest of the Creator's works. For sheer perfume delight, passing a colony of swamp roses in full flower is an unforgettable experience.

The ascendency of life that begins with the first awakening in spring, encouraged by the rains of April and the tremendous influence of the spirit of growth in May, seems in June to culminate in days of ecstasy that cannot be surpassed. The poet said it this way: "For the world is full of roses, and the roses full of dew, and the dew is full of heavenly love that drips for me and you."





Try Specs for Pheasant Pecks

By Robert G. Miller

County Editor, Lancaster Intelligencer Journal

IS pecking raising havoc with your pheasant raising program by causing too many deaths among the birds before the flock has matured sufficiently for stocking?

If that's the case, then take a tip from the Columbia Fish and Game Association and start using "specs" on your birds.

These "specs" or blinders, which have been launded by district and deputy game protectors alike, resulted last year in the best flock of birds raised by the Columbia sportsmen since they started raising pheasants about five years ago.

The blinders, which are of plastic construction and barely two inches wide, fit over the bird's upper beak, Two prongs are inserted into the nostrils to keep the blinder in place.

Since the blinders are non-transparent, they prevent the bird from seeing straight ahead and prevent it from pecking at other birds. However they do not prevent the bird from eating.

There are at least two types of "specs" available for use on any kind of hatchery-raised fowl. One is the plastic blinder already mentioned and the other is of a metallic construction.

One well known Lancaster County pheasant raiser, who has tried both types, finds the plastic blinder the best type to use since it will readily pull loose and release the bird in case it becomes frightened and flies against the sides or top of the wire enclosed pen.

It has been found that the metal blinder, fastened to the bird's beak with a metal pin, does not pull loose. As a result the commercial breeder lost a large number of his birds when they flew against the screening and were unable to free themselves.

John Haverstick, Lancaster, the district game protector for Lancaster County, has praised the blinders for the good work they performed for the Columbia organization. However,

he advocates good ground cover in the pens to eliminate a majority of the loss in birds due to pecking.

The blinders have also been commended by Deputy Game Protector Lew Gable, of Columbia, who has been working closely with the Columbia Fish and Game Association in its various projects.

The Columbia sportsmen, who each spring receive an allotment of 270 day-old chicks from the Pennsylvania Game Commission, started the pheasant raising project about five years ago after recognizing a definite need for more birds to improve small game hunting in the county.

In order to care for the birds, large airy pens were constructed at nearby Washington Boro and interested farmers immediately began providing grain, in addition to that purchased by the club, so that the birds were always well fed.

However, since this was a new project for the club, the members became faced with a problem they hadn't anticipated when the first chicks arrived from the Game Commission and were released into the pens.

That problem turned out to be



EXCELLENT PLUMAGE of ringneck cockbird ready for release is admired by Russel Moore, a past president of Columbia Fish and Game Association. Use of specs in club's pheasant rearing project last year resulted in better birds.

pecking, a cannibalistic tendancy of birds raised in a confined area, until they drew blood and several birds had died. This problem, plus other natural diseases, wiped out nearly half the flock during that first year.

However, the first year's results failed to dampen the spirits of the club members who went out of their way and spent many hours discussing the problem with farmers and other sportsmen's groups in an effort to secure a remedy.

Several suggestions were outlined and tried, including providing a meat diet with cooked and raw meat, but all failed to eliminate the problem.

The second year's program met with about the same results so that by the end of that year few birds were left out of the original shipment for stocking in the Columbia—Washington Boro—Mountville areas.

The third year found the club following a suggestion which came from turkey raisers, especially those who kept their turkeys confined in wire pens. This suggestion, de-beaking, met with some success but only until the beak grew back to its normal shape and the bird was able to start pulling feathers again.

Still undaunted by the lack of success in this particular venture, the club next tried wire rings during 1953, the fourth year of the pheasant raising program.

In this case the metal rings were placed around the upper beak to prevent the beak from closing too tight. This, like de-beaking, met with a certain amount of success which lasted only until the beak grew around the ring. As a result, the feathers started flying again and a majority of the birds that survived were released minus their tail feathers.



RED PLASTIC SPECS used on all birds raised by Association last year are about two inches long, do not inconvenience pheasants when feeding.

Finally, just before the 1954 allotment of chicks arrived from the Pennsylvania Game Commission, the sportsmen were instructed by a commercial hatchery operator to try the "specs" and, in the months that followed, the club realized that it had finally found the answer to the $64 question.

For its work in solving this problem, the club received a verbal commendation from the Pennsylvania Game Commission, and officers of the Columbia organization thoroughly recommend the use of blinders by other clubs faced with a similar situation this year.

Club officers further pointed out that only an initial outlay is necessary for the purchase of the blinders since they can be used year after year.



Hal H. Harrison Photo

Training Tells

By Clyde L. Allison

"WHERE do you plan to hunt this fall, Bill?" I asked my friend.

"I'm going up in Canada for a couple of weeks," he replied. Then added, "You know, up there you see more sign of animals than of man."

Yes, I wormed an invitation out of Bill without too much trouble. However, at the last minute I was forced to change my plans.

Each time I hunted here near home, Bill's words "more sign of animals than of man" flashed through my mind. Each time I saw evidence of man's carelessness the thought became embedded deeper.

Starting a little late one morning during deer season, I headed my car for a favorite spot. Along the highway I noticed the empty cans, bottles and other trash that had been thrown from passing cars. Now and then I saw a highway sign that had been a target for someone with a gun.

Farther on I noticed several parked cars and hunters standing along a farmer's fence. Slowing down as I approached, I saw the reason for the excitement. The farmer on his tractor, was pulling a dead cow out to the road. The animal had been mistaken for a buck deer by one of these so-called hunters. The careless shooter could just as easily have killed a companion.

Not having a camera along, I drove on toward the place I proposed to hunt. It seemed as though most of the land in the area was posted now. Areas I had hunted previously now had "No Hunting" signs tacked to trees and fence posts. Nearing the place I was to hunt, I pulled off the road to park in a place I had often used.

Suddenly my foot hit the brake! There almost under the front wheels was a pile of trash dumped by some thoughtless character. Fortunately, I am unable to recall the language I used at the time.

Hunting later in the day, I approached a pine stump. The empty feeling in my stomach told me the time was ripe for the sandwich I carried in my pocket. A second look at the stump convinced me that someone else had been here before. A broken milk bottle had been a target for some previous hunter.

Locating a more suitable spot I sat down to eat my small lunch. As I ate I began thinking of my friend Bill and again of his words.

I knew Bill well. Well enough to know that he didn't care much for the trophies or for the actual killing of game. Sure, he got a thrill out of a nice shot but he was far from a meat hunter. Anyway, we had plenty of game right around home. Hunters hadn't affected that too much. And wasn't some of the best trapping near large cities? Then I remembered last bird season when Bill's setter cut a foot on broken bottle early the first day.

No, it wasn't that he would see more game. It was more what he wouldn't see that caused Bill to go so far north even though he hated to drive any distance. I wondered too what another twenty years would bring. Given enough time, broken bottles and other trash might even cover the earth or at least the areas that held some attraction to man.

My thoughts drifted back to the present and the men that I knew were real hunters, men that could never get enough of the out-of-doors. These men were all reasonably good shots. Yet I could not recall ever seeing any one of them shoot at highway signs or blasting away at cans or bottles in the woods. These hunters knew too, the killing power of a rifle and of its limitations. Not one would ever shoot at a noise nor would he shoot at all until he had identified his game and knew that he had a reasonable chance of making a clean kill. Each had confidence in himself, his firearm and his knowledge of the game he hunted.

On the other hand we have the fellow we call by a variety of names. He's the one who shoots a farmer's cow, blazes away at highway signs,

CIVILIZATION'S DEBRIS litters too much of the land. Is this to be the heritage of coming generations?

OPL Photo by Allison





OPL Photo by Allison

DEATH CAN RESULT from target practice such as this! Use highway signs to save lives, not for target practice and unsafe shooting.

or leaves evidence of his target practice in other thoughtless ways. Actually, he needs help. Often he is none too confident of his ability to hit any target. Not knowing the habits of the game he seeks, our nimrod soon becomes discouraged and seeks to bolster his morale with great feats of marksmanship.

Since he has not really enjoyed his attempt at bagging game he feels no concern for the area. The fact that his target practice may do some damage does not bother him in the least. Neither does it matter that the trash he leaves may subtract from another's pleasure.

The problem, then, must be solved by the proper education of the future hunter, regardless of the age at which he begins the sport. Many a boy learns from his father. This is perhaps the best means of acquiring a knowledge of firearms, sportsmanship and ability in the woods. Little concern need be felt in regard to the boy whose father willingly takes him on hunting trips and teaches him these essentials.

Now, however, with improved transportation and more leisure, plus available employment at good wages, thousands of men are buying licenses for the first time. Many of these have little or no preparation before going afield. Our skeet and gun clubs are doing much to help in this preparation. Club members who know of one buying his first gun can be of help by inviting him to the club to shoot.

The man behind the sporting goods counter may have the first opportunity to help the beginner. If the salesman will take the time and interest in the customer who is obviously buying his first firearm, he can give him some helpful pointers. The purchaser would no doubt appreciate and benefit from some of the instructive free literature published by the arms manufacturers.

When a young man decides to buy his first gun, he may approach an experienced hunter for advice. This, of course, is an opportunity to be of help in starting the new hunter off on the right foot. Once he has made his purchase, a gun club or rifle range is one of the best places to practice although the lack of such facilities should not prove much of a handicap. A suitable spot in the country will do as well. In selecting this spot it should be remembered that a shotgun is dangerous within a couple of hundred yards and that a .22 caliber rifle is regarded as dangerous within one mile. A hill will provide an excellent rifle backstop if it is high enough so that there is no danger of a stray bullet going over the top.

First of all the new shooter should be shown how to handle the firearm, to bring it up properly and release the safety. He should be told that the safety is to be kept on at all times except when the piece is to be fired. He should be warned that dirt may result in a ruined barrel and perhaps injury to himself. He should be cautioned too about purchasing ammunition not made for his weapon. Every care should be taken to make sure the new owner knows the danger of a firearm that is carelessly handled.

For the man with a shotgun, a hand trap and a supply of city pigeons will provide plenty of practice. Shown how to hold on a rising bird which is thrown from a position to the side and behind the shooter, he will quickly learn to make the more difficult shots. As the man with the trap moves farther to the side, the clay birds become harder to hit.

The friend with his first rifle should be shown the proper positions and his first practice should be at paper targets so he will be able to see his group of hits. As he gains confidence and a fair amount of skill moving targets can be used to add interest and offer more of a challenge. For this rubber balloons provide an inexpensive and easily seen object. At first the balloons should be fully inflated to furnish as large a target as possible. With the shooter facing down wind the balloons can be released from nearby. Little wind is required to provide movement to the target. As skill is acquired the balloons can be released so as to provide more of an angle shot. Somewhat less air can be used for inflating too. The stronger the wind the more difficult the shot. A small balloon in a stiff breeze will offer good practice for the experienced man as well. With a reasonable amount of precaution such shooting should offer little danger.

Having attained a measure of skill with his new weapon, the novice, now turning to hunting, will realize that a barrage in the general direction of the game is of little value. He should have a feeling of confidence and be ready for the hunting season.

Now if the new hunter can have the benefit of a seasoned hunter's advice and guidance he is likely to form good habits that will stay with him a long time. He will learn about the game he hunts, safety in hunting, sportsmanship, and something of how to take care of himself.

With a few successful hunts under his belt he will know a little of nature and should be eager to learn more. Our new hunter will be able to look back on his trips with pleasure rather than disappointment. It is now that he begins to realize that nature stands ready and able to offer an abundance of gifts to those who help preserve and protect her.

Yes, this fellow buying a new gun may be a madman when he gets out hunting. On the other hand, with a little help, he could make a mighty fine hunting partner. Let's give him all the help and encouragement we can.



Bullets to Bird Bands

By William Boyd

AS one of the few licensed wild bird banders in Pennsylvania, a recently retired army officer who served in two world wars is finding more time to indulge in his hobby.

Col. Howard A. W. Kates, who came to the Williamsport area of Pennsylvania in 1938 as commander of sub-district 13 of the Civilian Conservation Corps, now lives along Montoursville R. D. 2, below Williamsport, where he feeds and traps birds and small animals and builds bird houses and feeding stations.

Licensed by the Federal Bureau of Biological Survey in Washington, Col. Kates, after a World War II hitch as commander of a United States air station in Puerto Rica, has trapped and banded a total of 2,500 birds of 42 different species.

The largest number of birds of one kind banded by the former army officer are song sparrows, 354 of which he caught in the traps set on the spacious grounds back of his home less than a mile outside Williamsport's eastern boundary. Seven different species of sparrows are among the birds trapped.

Evening grosbeaks to the number of 282 have been trapped by the colonel, most of them in the winter of 1952, when these birds came down from Canada in large numbers and wintered on the outskirts of Williamsport.

Grosbeaks which he caught and

banded were trapped later in Canada, Maine, Massachusetts, Connecticut, New Jersey, New York, and other parts of Pennsylvania. This he learned from the biological bureau in Washington, which records bird flights from data provided by the bands placed on bird legs by licensed banders.

During all the years he has been banding birds in the Williamsport area, Col. Kates, until the spring of last year, sought in vain to induce martins to occupy martin houses he put up around his home. Now his martin visitors of 1953 have returned from South America to spend the summer with him and in martin houses of his neighbor, Gordon B. Wilson.

Martins to the number of about four dozen this summer occupied 20-room, 18-room, 13-room, and 8-room houses on the Kates and Wilson properties. These interesting birds, Col. Kates says, leave about the middle of August for their winter homes in South America.

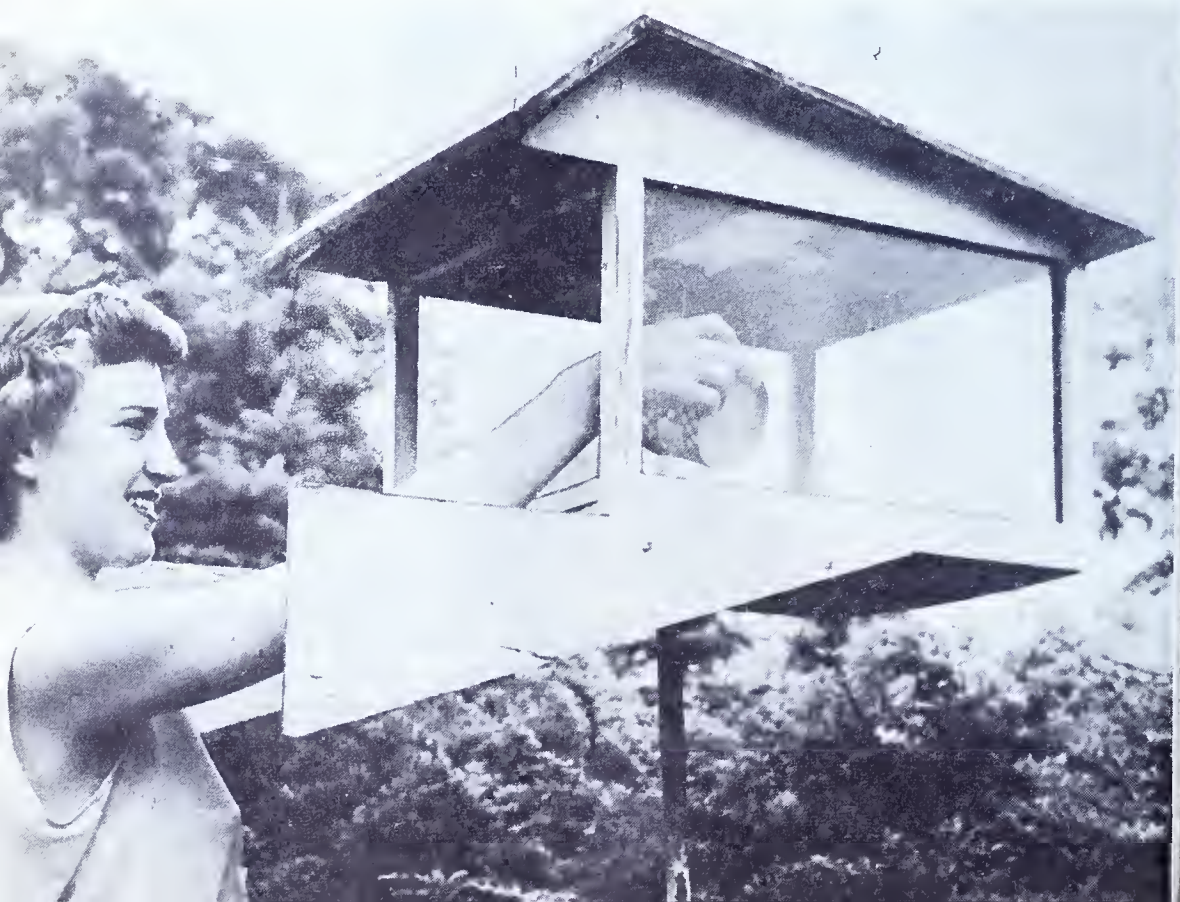
Since the martins have come to live with them, the Kates' have found but two cabbage butterflies and two cabbage worms in their extensive and productive vegetable garden.

That birds of the obnoxious kinds are of some service is maintained by Col. Kates, who says that sparrows feed on Japanese beetles and starlings eat the grubs of this destructive pest.

A lover of birds of all kinds, the soldier turned bird bander has a pen of jungle fowl, a pheasant-like bird which is native to Java. These he got from his brother-in-law, Pius Glessner, of Bethlehem, who uses the exotic chickens to hatch quail eggs for stocking on the preserve which he manages in Northampton County.

Until a few years ago Col. Kates had a pet crow named Ferdy which he had taken from a nest and taught

BIRD FEEDER gets refill from Mrs. Jerald Cornwell, the colonel's daughter. Feeders help attract wide variety of songbirds to grounds.



to talk. Ferdy became something of a pest when he learned that folk along the old Montoursville Road had their bread placed in baskets at the entrances to their premises. From then on he made daily rounds to eat his fill of the bread left by unsuspecting deliverymen.

Before he disappeared from the Kates home, Ferdy was the friend and playmate of a Mexican dog which the colonel brought back with him from an army post in New Mexico.

Five bird feeding stations and bird houses of all kinds are located in all parts of the spacious Kates lawn. All of them have been built by the former soldier, who has a complete wood-working shop in part of his large garage.

Col. Kates has been a military man virtually all his adult life, having enlisted with the United States Marines in his early youth. After a hitch with the soldiers of the sea he entered Pennsylvania State College for an engineering course but was called to World War I service before completing it.

He served as an officer of infantry until he was severely wounded in the Meuse-Argonne offensive, where he won the Silver Star along with his Purple Heart.

Between periods of service with military forces, Col. Kates has been with the Pennsylvania Highway Department on various road building projects. He is a native of Downingtown where his family had an estate and where relatives continue to reside.

Hunting and Fishing Tops National Interest

This note on the comparison of national interest in outdoor sports was printed recently in Jim Keefe's news release for the Missouri Conservation Commission: "Baseball the national pastime? Don't you believe it. America's leading sport is hunting and fishing, according to sportscaster Bill Stern. Stern said baseball drew 18 million paid customers in 1953, rodeos had 20 million, and horse racing pulled in 30 million. Hunting and fishing outdrew them all with 32 million hunters and fishermen buying licenses that year. And there were another four million saltwater fishermen not required to have licenses.

"Baseball equipment manufacturers sold 35 million dollars worth of goods and golfers spent 80 million on their sport. Hunters and fishermen made that look like small-time deals by spending six billion dollars, Stern said."

It might be added that approximately three million persons were given free hunting and fishing privileges by the various states and that the total would be swelled still further by the uncounted millions of youngsters and women who are not required to have licenses for these activities in many of the states.



Mountain Goats For Gettysburg

ADAMS COUNTY—Last summer there was a good deal of interest in this neighborhood relative to reports of mountain lions being on the loose. As usually happens, the excitement soon died down and the mountain lion was just a memory. During March I had an unusual report that there were several mountain goats in the South Mountain area. Their tracks had been seen, the scratches made on the rocks had been seen, and even the mountain goats had been seen. Next, I received a report, more factual than those reported above, the two goats had been shot on Jack's Mountain. The man who made the report was not the big game hunter but, rather, the owner of the goats which had wandered away from their home and became too great a temptation for some person or persons armed with a rifle and a desire to become a successful goat hunter. When the goats failed to return, the owner went in search of them and found that they had been shot. However, the successful big game hunter failed to take his trophies home with him. The goats were left lying where they had been shot.—District Game Protector Paul H. Glenny, Gettysburg.



Embryo American Emblems

CRAWFORD COUNTY—In late march I was visiting wood duck nesting boxes and replenishing the nesting material where necessary at Pymatuning Refuge. As many of the boxes are erected over water areas, I was using a canoe for transportation. As the canoe approached a small wooded island, a bald eagle began flying around overhead and then began the familiar "cheetering" noise that they make when molested at the nest. I then saw that the eagles had built a new nest in a location on the island. I stopped the canoe near the island and repaired a nesting box and the eagle that had been flying overhead then flew away to the other side of the marsh. I could see that another eagle was on the nest so I made as little disturbance as possible. I paddled quietly up around the island and examined several more boxes and as I paddled back down the other side of the island I observed the flying eagle return and sit on the edge of the nest. In a little while the eagle on the nest flew off and immediately the other mate got down into the nest and began its turn at keeping the eggs at an incubating temperature—District Game Protector Raymond M. Sickles, Linesville.

Farmer Sportsmen

POTTER COUNTY—Our farmers of Pennsylvania do a much greater service to the sportsmen than the average sportsman realizes. One incident that happened in my district during the latter part of March is as follows. Farmer Merle Jacobs of Sweeden Hill donated about six hours of his time and use of his tractor to assist me in putting out 800 pounds of salt for deer. It was placed way back in the wooded areas, not only to alleviate crop damage in that area, but also to save some deer from being shot for crop damage as they come to the cultivated fields and dig for the salt and nitrate in commercial fertilizer. Mr. Jacobs loves to hunt. He also assisted me in putting out corn for turkeys this past winter as did farmers Therold Furman, Howard Baker, Harold Howard, and several other farmers in my district.—District Game Protector Rozell A. Stidd, Coudersport.

Winter's Aftermath

ELK COUNTY—The turkeys have apparently wintered in great shape, thanks no doubt to an extensive feeding campaign by deputies, sportsmen and myself. I am unable to say as much for the deer however. I have personally seen five winter killed deer and have a reliable report from the National Transit line walker of 21 dead along his route in Highland Township.—District Game Protector Vern A. Van Order, Wilcox.

Early Bird

ERIE COUNTY—While checking woodcock census routes with Mr. Steve Liscinsky and Mr. Raylor on March 20, we found a woodcock nest containing one egg. Mr. Liscinsky stated that this was the earliest nest that he had ever found, the previous record being March 30.—District Game Protector William E. Lee, Albion.



Scared, Scarred, Escaped

HUNTINGDON COUNTY—One day this winter while stocking cottontail rabbits on a farm in Union Township, Fish Warden Owens and I were shocked to see one of the rabbits just turned loose go streaking straight for the barn where we immediately saw a large yellow housecat looking out between the slightly open barn doors. We were not a bit surprised to see the cat give hot pursuit after the bunny. There were two surprised men when the cat gained on the zigging and zagging speeding rabbit until he caught it. Then came the real surprise; the rabbit was kicking and clawing about three times as fast as the cat and the old saying of "watch the fur fly" was really in fashion. The struggle lasted a few seconds while we ran over and hollered at the cat. The rabbit got away without any help from us and then the chase began again but the cat soon played out and the scarred and scared bunny finally disappeared into the surrounding cover. We hope that he recovered from his narrow escape. —District Game Protector Dean M. Lesnett, Hesston.

Some San Juans

LYCOMING COUNTY—The Consolidated Sportsmen had several San Juan rabbits in one of their ringneck pens at their farm on the Loyalsock Creek. (One buck and five does). They took them from the pen about two weeks ago and one female had eleven young, one had nine and one dropped five along the fence while they were trying to catch her—25 young rabbits from three females.—District Game Protector Levi R. Whippo, Williamsport.

Common Sense Catches Corn

WESTMORELAND COUNTY—While trapping deer on the Rolling Rock Club grounds this winter, I had this experience with a raccoon. On three mornings in succession, one of the deer traps was closed, but the only thing on the inside was coon tracks. The apples and corn that I used for bait were gone. After the third morning the bait was gone but the trap remained open. One afternoon while walking toward the trap, I discovered how Mr. Coon stole the bait without closing the trap. The trigger is a wire stretched across the trap with the bait placed directly beneath the wire. Mr. Coon was stretched out on his stomach, reaching beneath the wire, and pulling out the apples and corn. This proves again that we should credit some wild animals with a lot of common sense. —District Game Protector Charles Hertz, Ligonier.

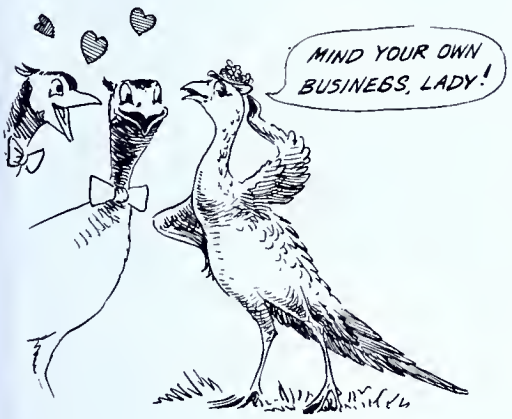


Albino Bandit

LAWRENCE COUNTY—One pure white male raccoon was killed by hunters in Lawrence County in November. The party taking the raccoon took four others the same night weighing from 15½ to 18 pounds. The white coon weighed 18 pounds even. Joe Park of New Castle and his son were the lucky hunters.—District Game Protector Calvin A. Hooper, Jr., New Castle.

March—Time of Crisis

TIOGA COUNTY—This March, as those in the past, witnessed a serious loss of wildlife due to natural and man-made causes here in Tioga County. Many small game and furbearing animals survived a hard winter in a weakened state only to fall victim to predators, dogs or automobiles. Large numbers of these animals were killed by cars, five dead rabbits were seen within 150 yards of the Mansfield boro line one morning. Deer also became casualties this month. Seven were killed by cars within five days, two of them were does bearing two and three fawns respectfully, which also added to the total. Dogs took their toll too from both small game and deer. Migrating hawks and foxes in search of food for their young also took their share from the barren cover. One 25 pound Tom turkey the leader of a small flock on State Game Lands No. 37, was taken by a fox on the 31st of the month, thus depriving the remaining hens of a mate and some sportsman a grand trophy. — District Game Protector James A. Osman, Mansfield.



Ladies To The Rescue

MERCER COUNTY—In my district everyone is remarking that they are seeing a lot more ringneck pheasant hens but no cockbirds and I am getting numerous requests for the much needed cockbirds. These requests will be filled by the Commission this spring but as usual, I received a request contrary to the cockbird request. A woman from the outskirts of Mercer called my headquarters and informed me that she heard that the ratio of pheasant cockbirds to hens should be about one cockbird to ten hens. She stated that if that was the case, her four hen pheasants are unjustly outnumbered. Her flock is comprised of four hens and five cockbirds, so she made the logical request that the Game Commission come to the rescue of the four hens by stocking more hens in the immediately vicinity.—District Game Protector Arthur T. Biondi, Mercer.

Angler Angers Ringneck

FULTON COUNTY—Fish Warden Carnell and I were patrolling Barnett's Run, south of Needmore, early in March. We saw a fisherman, Stanley Sharp of Dott, Pa., coming through a field from the stream. A cock ringneck pheasant was flying at him and flogging him. Carnell and I investigated and he told us that he was glad we came along because no one would have believed him otherwise. He was fishing along the stream when he saw five hens and a cock on the opposite bank. The cock came over and made such a nuisance of himself that it was necessary for Mr. Sharp to place his landing net over the bird so that he could continue fishing. Carnell and I played with the bird for awhile, and tried to instill some fear in him, but to no avail. Other fishermen have reported like experiences at the same fishing hole. —District Game Protector Carl E. Jarrett, McConnellsburg.

Squirrel Crossing

GREENE COUNTY—One evening in March while enroute home along the Monongahela River in the eastern end of Greene County, Donald Fox had to stop his vehicle for a squirrel migration of some sort. He counted 27 gray squirrels until another motorist drove up behind and started to blow his horn and to shout. The interesting thing to note is how disrespectful some motorists can be towards game crossing highways.—District Game Protector Alex J. Ziros, Carmichaels.





Too Lazy To Trail Deer?

CLINTON COUNTY—This year the late winter and early spring running of dogs on deer has been as bad or worse than any I have seen. There is no telling how many deer have been run until they dropped because of dogs. I do know that hardly a day went by during the month of March that I didn't have at least one complaint of dogs running deer. And usually these are no pack of wild dogs or tame dogs gone wild as many sportsmen assume, but they are the kind of dogs that when they aren't running are lying peacefully on the owners porch, while said owner is telling the Game Protector, "My dogs wouldn't run deer, look at him lying on the porch, too lazy to get up." Too tired from running deer to get up would be closer to the truth.—District Game Protector Charles F. Keiper, Renovo.

"Outen" The Owl

ERIE COUNTY—Howard Sanders, a farmer living near Edinboro, lost several ducks and blamed the loss on foxes. One evening, after dark, he investigated a commotion near his barn and found a great horned owl and a tame goose having a battle royal. Mr. Sanders obtained a shotgun and with a light managed to run the owl down and shoot it. In the battle with the goose the owl was injured and could not fly. The goose seemed none the worse for wear.—District Game Protector Elmer Simpson, Union City.

Panther Panic

LAWRENCE COUNTY—The large black panther scare is apparently over in Lawrence County. Recently horrible screams were heard at night in the Pulaski, Pa., area in the vicinity of State Game Lands No. 150. Then, several days later, it happened! A young lady actually saw it! It stood in the early morning watching the family dog—then slunk away. This caused the dog to carry on something scandalous. The young lady said she knew right then, when the dog carried on so, that it was a black panther. As usual the local press took up the story as well as the radio stations and the hunt was on. We have a black panther seen here at least once each year so the reports go. Local hunters who were hept up over the scare wondered if a 30-06 would be sufficient to dispatch the animal. The whole story died a natural death soon after the "panther" chased four grown men from a truck in Pittsburgh before someone discovered it was only a large house cat.—District Game Protector Calvin A. Hooper, New Castle.

Battle Scars

CRAWFORD COUNTY—Some of our beaver must lead a pretty tough life. Although they don't have any natural enemies in Crawford County except man, it would appear that they have to be on guard at all times. I know of one being taken this season that had several bird shot in it, what appeared to be a rifle bullet hole through the tail, several old scars that it probably got from fighting and a broken leg that wasn't healed.—District Game Protector John Putnam, Hydetown.



The End of Game Trails

By Don Shiner

THE need for continual searching after wounded game struck home forcefully when the buck, lying motionless on the cold ground, stared listlessly at me. Its bleached white antlers glistened in the thin shafts of sunlight which filtered down through budding tree limbs. The once soft fur had long since loosened and washed away in large patches from the leathery, decaying skin. Crows had plucked the eyes leaving gaping holes in the head, and begun working in the body cavity. Flies, gaining strength from the now warming spring sun, crawled thickly over the carcas.

We were trout fishing this particular day. Having parked our car near a wooded ravine, assembled our rods and gear, we made our way along the shoreline of the singing brook dropping flies into the pools to lure the trout that made their home there. Shallow riffles predominated in the stream at one point. Detouring around the riffles in search of larger pools farther into the ravine, I stumbled over what appeared to be white, barkless tree limbs that proj-

ected above the wood's floor. But the stench that suddenly filled the air proved it was more than this. The limbs were bleached antlers! Here was a deer! Dried oak leaves, small twigs and pine needles had blown upon the body, concealing the carcass from casual eyes.

What fate caused it to fall here? Did it die of old age? of disease? of starvation? Scraping the matted hair, leaves and twigs from the body, evidence of two small round holes became visible high in the intestinal area. One of the hind legs was broken. Unmistakenly, the deer had been shot!

It is difficult to re-enact the episode that led to the ultimate finding of the buck this day. Pictures immediately come to mind of the deer being shot in a non-vital area and surging swiftly through the hemlocks, becoming lost from the hunter's searching eyes. The normal trail of blood sparsely scattered among the leaves, was difficult to follow. Perhaps the deer ran for many miles and the trail was abandoned at sundown, with the hunter failing to return to continue the search the following day. Perhaps while trailing it, another deer looming into range offered a tempting target and the trail of the first deer was forgotten.

Countless deer are left to die in this fashion. Hunters are not totally to blame. But it is a pitiful waste to leave a deer—good meat, a fine trophy, perhaps a leather jacket and gloves—lying rotting in the field. It is clearly evident that every hunter should abandon the trail of wounded game—be it a rabbit, pheasant, deer or bear—*only* after all possible efforts to find the game have been exhausted.

Learning to trail game is good experience and should be a prime requisite for every hunter. Broken, branches overturned leaves, drops of blood, faint foot prints in soft earth and snow, hair on bark of trees, and freshly roiled pools in streams all give evidence of passing game. Following these game trails requires patience, keen observation and must be accomplished slowly.

Here then is the essence of good hunting. No wounded game should be deserted wantonly. Only after exhaustive and intensive efforts prove the game hopelessly lost should game trails be abandoned.

Free "How to Shoot" Booklet

With an attractive cover and fully illustrated throughout, "How to be a Crack Shot" is the title of an interesting and informative booklet which can be obtained free by writing the Advertising Division, Remington Arms Company, Inc., Bridgeport, Conn.

The booklet, which was originally produced several years ago, has been revamped and brought up to date with new features added. It will be of interest to both adult and youngster, and will be particularly useful in starting the young shooter on the path to shooting proficiency.

A Sportsman's Guide To . . .

Dauphin County

Fiftieth in a Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Dauphin County covers 350,848 acres of which 137,107 acres (39.1%) are forested. Publically owned land totals 60,724 acres, including 27,120 acres in State Game Lands.

Topography

More than half of the county is located in the fertile Kittatinny Valley while the upper part is a mountainous region marked at its southern base by the Blue Mountains. In this region are five parallel mountain ridges, rising at their highest point between 1,700 and 1,800 feet above sea level, and stretching northeastward from the Susquehanna River into the southern anthracite fields.

Transportation

Railroad transportation is furnished by the Pennsylvania, the Reading, and the Steelton & Highspire (an intra-plant line of the Bethlehem Steel Company) lines. The William Penn Highway (U.S. 22), U. S. Routes 230 and 422, and other important highways traverse the county which has 498 miles of improved State highways.

District Game Protector

District Game Protector Harold F. Harter, 434 Center Street, Millersburg (Phone: 278) is assigned to the following townships: Upper Paxton, Mifflin, Washington, Lykens, Wiconisco, Williams, Reed, Halifax, Jackson, Wayne, Jefferson, Rush and Middle Paxton.

District Game Protector Mark P. Motter, 3608 Centerfield Road, Colonial Gardens, Harrisburg (Phone: CEdar 5-9572) is assigned to the following townships: Susquehanna, Lower Paxton, West Hanover, East Hanover, South Hanover, Swatara, Lower Swatara, Derry, Londonderry and Conewago.

Fish Warden

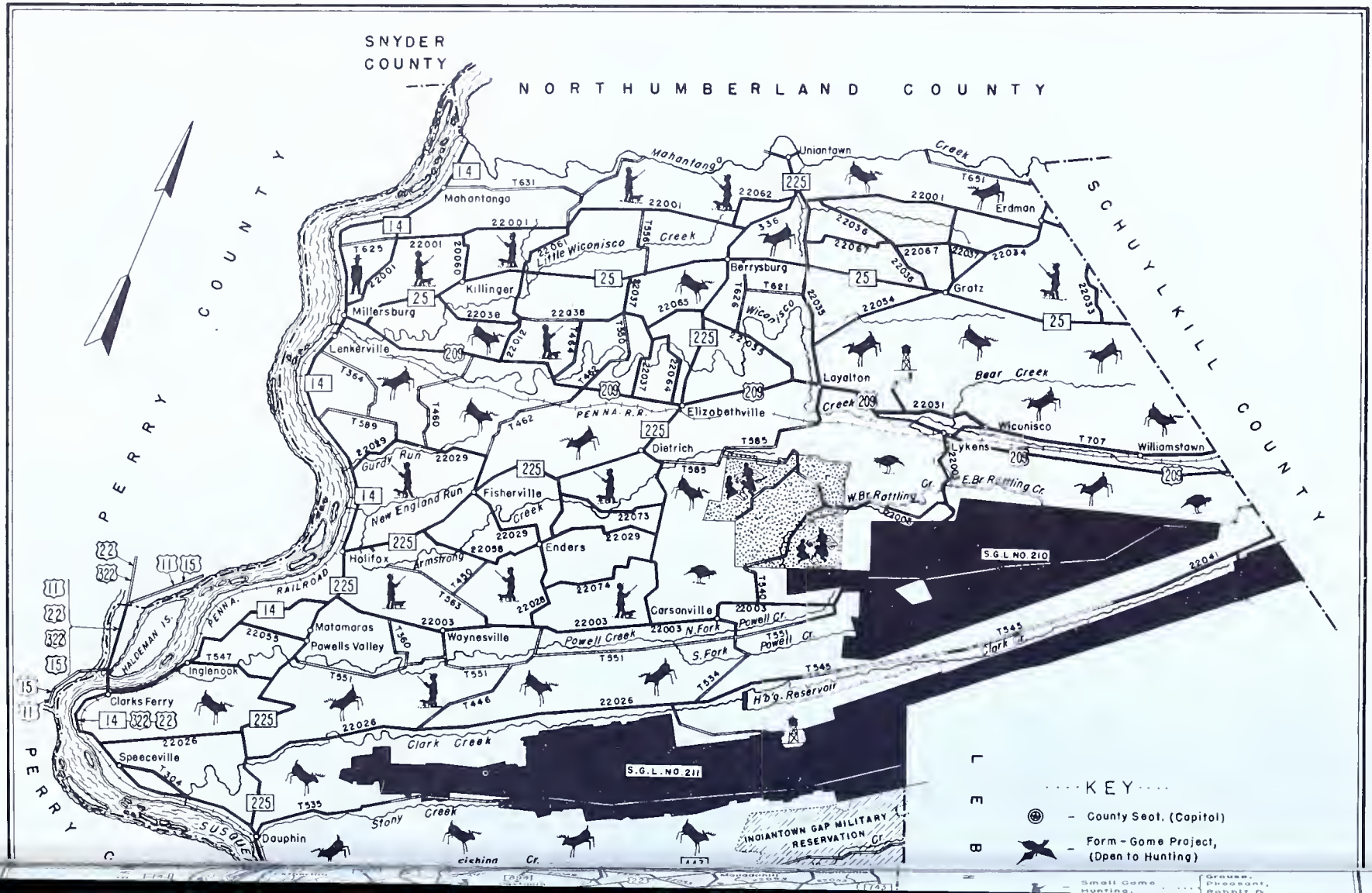
Fish Warden B. F. Barnhart, R. D. No. 1, Elizabethville (Phone: 34R23) is assigned to Dauphin County by the Pennsylvania Fish Commission.

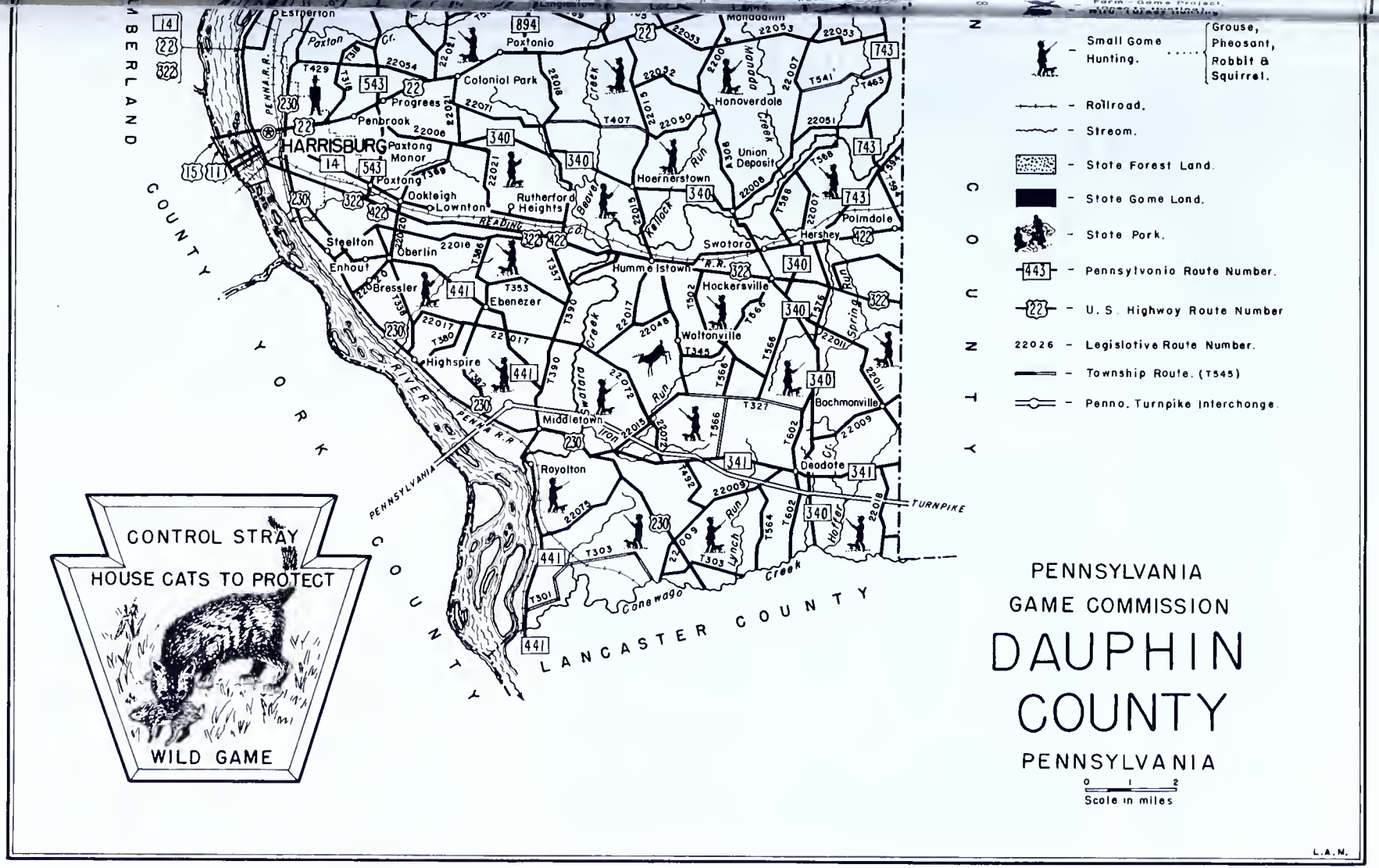
Agriculture

The northern part of the county affords some farming areas between the close-set mountains while dairy farming is practiced widely throughout the southeastern section. Principal agricultural products include tobacco, hay, grains, fruits, and dairy produce.

Industry

The industrial development of this county just before and after the Civil War was very marked. Steelton was laid out about 1866, and was first called Baldwin as a compliment to the famous locomotive builder who was much interested in the original Pennsylvania Steel Company project, later taken over by the Bethlehem Steel Company. Middletown, the earliest incorporated settlement in the county, was an important point on the old canal system of the State and today is nationally known because of the large U.S. Air Force Depot located there. This town was laid out in 1755


SNYDER COUNTY
NORTHUMBERLAND COUNTY
PERRY COUNTY
SCHUYLKILL COUNTY
PERRY COUNTY
Mahantango Creek
Uniontown
Mahantango
Erdman
Little Wiconisco Creek
Berrysburg
Killinger
Millersburg
Gratz
Wiconisco Creek
Lenkerville
Loyalton
Bear Creek Creek
Elizabethville
PENNA. R.R.
Dietrich
Wiconisco
Lykens
Williamstown
Gurdy Run
New England Run
Fisherville
Creek
E. Br. Rattling Cr.
W. Br. Rattling Cr.
S.G.L. NO. 210
Holtfox
Armstrong
Enders
Carsonville
Powell Cr.
Powell Creek
N. Fork
S. Fork
Matamoras
Powells Valley
Waynesville
Inglenook
Clarks Ferry
Speeceville
Clark Creek
H'b'g. Reservoir
S.G.L. NO. 211
Stony Creek
Dauphin
INDIANTOWN GAP MILITARY RESERVATION
Cr.
PENNA. RAILROAD
HALDEMAN IS.
SUSQUEHANNA R.
KEY
County Seat. (Capitol)
Farm-Game Project, (Open to Hunting)
Small Game Hunting.
Grouse, Pheasant, Rabbit R


Small Game Hunting.
Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Forest Land.
State Game Land.
State Park.
Pennsylvania Route Number.
U. S. Highway Route Number
22026 Legislative Route Number.
Township Route. (T545)
Penna. Turnpike Interchange.
CONTROL STRAY
HOUSE CATS TO PROTECT
WILD GAME
PENNSYLVANIA
GAME COMMISSION
DAUPHIN
COUNTY
PENNSYLVANIA
Scale in miles
0 1 2
L.A.M.
HARRISBURG
Paxtonia
Colonial Park
Progress
Penbrook
Paxtang
Oakleigh
Lowther
Rutherford Heights
Steelton
Oberlin
Enhaut
Bressler
Ebenezer
Highspire
Middletown
Royalton
Hummelstown
Hoernerstown
Swatara
Union Deposit
Hershey
Palmdale
Hockersville
Waltonville
Bachmanville
Deodate
Conewago
Lynch Run
Spring Creek
Beaver Creek
Wallace Run
Swatara Creek
Iron Run
Paxton Cr.
Penna. R.R.
Reading R.R.
Susquehanna River
Pennsylvania Turnpike
CUMBERLAND COUNTY
YORK COUNTY
LANCASTER COUNTY

on the site of an Indian village, receiving its name from its location midway between Lancaster and Carlisle. Thirteen miles east of Harrisburg, near the eastern boundary of the county in a rich farming and dairying section, is the model town of Hershey, famous for its chocolate factory and fine community buildings. The Lykens Valley coal of this county is unexcelled while anthracite is also dredged from the Susquehanna River. Limestone is quarried for crushed stone, lime and flux; shale is used for making face brick and sand and gravel are dug on the river terrace at Highspire. Steel mills located at Harrisburg and Steelton have been among the most important in the State.

History

Dauphin County, widely known because the capital of Pennsylvania is located within its boundaries, was organized in 1758 from territory taken from Lancaster County. After Lebanon County was taken from Dauphin in 1813, the area was reduced to its present size of about 35 miles long and 16 miles wide.

The first permanent settlement was made in the lower part of the county, probably by John Harris who came to the vicinity of Harrisburg as an Indian trader before 1715. Here he established a ferry on patent from the Penns known as Harris' Ferry. His son, John Harris, Jr., was born about 1726 and founded the city bearing his name. By the time of the French and Indian War, a considerable settlement had been made extending eastward into the area now called Paxtang. The first churches were Presbyterian, Derry Church at present Hershey being organized in 1729 as was Paxton Church. The first German church was erected in 1788 in Harrisburg by German Reformed and Lutheran congregations. Harrisburg's first newspaper dates back to 1792. Harrisburg Academy was opened in 1784. The Pennsylvania Canal was begun at Harrisburg in 1826. The location of the capital of Pennsylvania at Harrisburg in 1812 was no mere coincidence. Although the city is more than 90 miles from the exact geographic center of the state, certain natural features entitle it to be called the crossroads of Pennsylvania. Not only has the city always been on important east and west routes, but the Susquehanna River which serves as the county's western boundary, has produced a natural gateway for north and south communications.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include: TROUT: Clarks Creek, Tower City, Rt. 209, 19 miles; Manada Creek, Fort Hunter, Rt. 22, 4 mi.; Powells Creek, Carsonville, Rt. 2203, 9 mi.; Rattling Creek & branches, Lykens, Rt. 209, 3 mi.; Stony Creek, Dauphin, Rt. 22, 15 mi.

BLACK BASS: Conewago Creek, Elizabethtown, Rt. 230, 9 mi.; Susquehanna River, Middletown, Rt. 230, 10 miles.

Recreation—Hunting

Dauphin County is primarily a small game area although a relatively good harvest of deer is made annually in the northern mountain area. Two large tracts of State Game Lands, open to public hunting, are found as follows: Number 210, near Lykens, covering 11,061 acres and Number 211 (in part), near Dauphin, covering 16,059 acres. One large Cooperative Farm Game Project, also open to public hunting, is located in the county—Number 52, covering 10,979 acres near Linglestown.



In Memoriam

Mr. G. I. Phillips, of Alexandria, a member of the Pennsylvania Game Commission, died at the Englewood Hospital, Englewood, New Jersey, on April 20 following a long illness. He was 72. Funeral services were held at the Presbyterian Church of Alexandria on April 23.

Commissioner Phillips was a graduate of Mercersburg Academy and Princeton University. He started his business career as a construction engineer for the Westinghouse Electric & Manufacturing Company in 1905, later worked as Superintendent of the Pittsburgh & Butler Street Railway and District Superintendent of the West Penn Power Company, Sewickly. He owned and operated a dairy farm at Alexandria since 1917. From 1923 he served as treasurer and general manager of the Basalt Trap Rock Company, Alexandria Fire Clay Company, and Alexandria Water Company. He also had many civic interests in the Alexandria area.

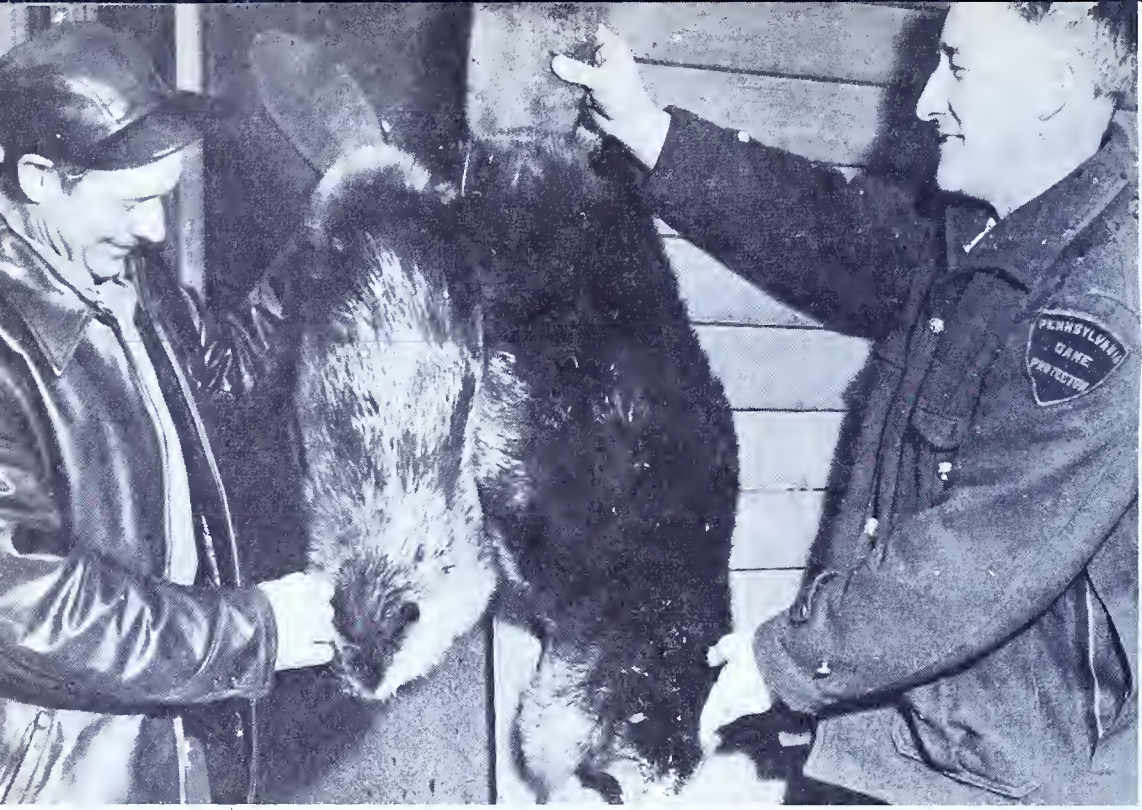
As a member of the Game Commission, G. I. Phillips served long and well. He was first appointed to the non-salaried position in December, 1940 and served until July, 1941. He received a subsequent appointment in July, 1943, serving continously until his death. Mr. Phillips had a life-long interest in wildlife conservation and was a charter member of the Huntingdon County Game, Fish and Forestry Association. As a commissioner, he was particularly interested in wildlife research and land utilization. His conservation knowledge and unselfish interest in Pennsylvania's wildlife administration will be sorely missed.



G. I. Phillips

Commemorative Stamp Proposed To Honor John M. Phillips

A special postage stamp in honor of the late John M. Phillips, nationally known conservationist, sportsman, and former member of the Pennsylvania Game Commission, has been proposed in Congress. Representative James G. Fulton, of Allegheny County's 27th Congressional District, introduced a bill (H. R. 3592) in Washington on February 3rd to authorize and direct the Postmaster General to issue such a stamp during 1955.



PGC Photo by Bob Parlaman

NEAR RECORD BEAVER HARVEST in Pennsylvania's 1955 season included these two trapped by Bill McKay, left, of Union City, Erie County. District Game Protector Elmer Simpson admires the larger of the two which weighed 50 pounds.

1955 Beaver Catch Was High

A total of 3,176 beavers were caught in Pennsylvania in the 1955 season. This was the third highest take of these animals in the history of the state's trapping seasons. It was exceeded only by the first open season, in 1934, when a record 6,456 beavers were caught, and the 1954 season, when the bag was 3,459.

Trapping results in the early part of the beaver season this year were discouraging. Crusted snow and poor travel conditions in many northern counties dampened the enthusiasm of trappers so much it was thought the catch would be light. But later conditions improved and trappers became so active they took the valued furbears in numbers well above expectation.

FUR DEALER Bill Jackson, Conneaut Lake, Crawford County, admires a jumbo beaver pelt taken in the 1955 season. The animal weighed 60 pounds and the pelt measured 81 inches. Over 400 of Pennsylvania's most valuable furbearers were taken in the county this year.





PGC Photo by Luttringer

PILOT OUTDOOR EDUCATION PROJECT planning session held at the Game Commission's training school near Brockway on March 30 was attended by this group, representing the Department of Public Instruction, Fish and Game Commissions, Dept. of Forests and Waters, Dept. of Agriculture, Soil Conservation Service, and Penn State University, along with members of the Brockway School Board and faculty. All sixth grade students in Brockway schools attended the unique outdoor workshop from May 10-20, under a program spearheaded by board president Joseph S. Pisoni.

Pittsburgh To Host 1956 Wildlife Conference

In Atlantic City recently the Northeast Wildlife Conference selected Pittsburgh, Pa., as the 1956 meeting site.

David L. Lawrence, Mayor of Pittsburgh, proclaimed the city "the most progressive city in America," and he offered members of the sponsoring organizations a cordial welcome to next year's convention.

The Northeast Wildlife Conference is attended by: the Northeast Section of the Wildlife Society; Fish, Game and Conservation Commissioners; American Fisheries Society; Conservation Law Enforcement Chiefs, and the Game Breeders' Association.

National Anti-Litter Organization Formed

The growing volume of unsightly litter along the nation's traffic routes and in its scenic and recreation areas prompted the formation of a new organization, Keep America Beautiful. This group, supported by American business interests, is a public service organization dedicated to the elimination of the litter problem, according to the Wildlife Management Institute.

Further information may be obtained by writing to John C. Rose, Executive Director, Keep America Beautiful, 100 Park Avenue, New York 17, New York.



Dr. Logan J. Bennett



Thos. F. Bell



Roger M. Latham

Pennsylvanians Head Wildlife Groups

Three Pennsylvania Game Commission staff officers were honored at the recent Atlantic City convention of the Northeast Wildlife Conference. Dr. Logan J. Bennett, Executive Director of the wildlife authority, was elected President of the Fish, Game and Conservation Commissioners. Roger M. Latham, the Pennsylvania Game Commission's Wildlife Research Chief, was elected Chairman of the Northeast Section of the Wildlife Society. Thomas F. Bell, Chief of the Commission's Wildlife Protection Division, was elected President of the Northeast Law Enforcement Chief's Association. Other organizations represented at this convention were: the American Fisheries Society and the Game Breeders' Association.

The conference was attended by outstanding conservationists from 12 northeastern states and the District of Columbia. The New Jersey Division of Fish and Game was the host for the 1955 convention. The conference theme was "Land and Water Management and Inter-related Factors that Affect Wildlife." General and technical papers and discussions dealt with this theme.

John C. Herman, Member of the Pennsylvania Game Commission, presented a paper titled "Maintaining Public Hunting in Pennsylvania." Another paper, by Wilmer C. Richter, Wildlife Research Division, the same organization, dealt with "Right-of-way Development for Wildlife." "The Field Settlement Plan as Used by Pennsylvania Game Commission and Fish Commission" was the title of a paper presented by Thomas F. Bell of the game body. William W. Britton, Chief Enforcement Officer of the Pennsylvania Fish Commission, collaborated in the preparation.



PGC Photo by Bob Parlaman

OPERATION NEST BOX undertaken by Sparta Sportsmen's Club last March highlighted National Wildlife Week program in Crawford County. Roland T. Putnam, former president of the club and county chairman of Wildlife Week observance spearheaded project. Club members built 10 wood duck nesting boxes and placed them near beaver dams and other wetland areas to encourage nesting by Pennsylvania's most colorful duck.

U. S. Sportsmen Turned Out In Record Numbers Last Year

The U. S. Fish and Wildlife Service has reported to Secretary of the Interior Douglas McKay that hunters and sport fishermen in the United States reached the record-breaking total of 32,654,199 individuals in the last fiscal year. These persons paid almost $85,000,000 for fishing and hunting licenses and federal duck stamps.

Hunters totaled 14,073,386 and they paid $46,047,781 for State Resident and Non-resident Licenses, permits, tags and stamps. This amount included $4,542,860 for migratory waterfowl stamps.

The Fish and Wildlife Service reports that, in the last fiscal year, the total of all hunting licenses sold in Pennsylvania was 889,801, for which hunters paid $3,460,261.

Apportionment of Federal Aid in Wildlife (Pittman-Robertson) funds to the States for wildlife restoration programs is based upon the number of paid license holders.

———————

"As straight as the crow flies" is a well known saying but crows don't fly that way. Their flight pattern is usually zigzag.

* * *

The Garter, Water and "Keel-scaled" snakes do not lay eggs.

* * *

The Devilfish or Giant Octopus is the largest mollusk.

* * *

The squirrel has a fine Greek lineage of name—an amalgam of the Greek words *Skia* and *Oura*. Skia is shadow and Oura is tail. Literally it means "he-who-holds-his-tail-over-his-back to shade himself."



Researcher Gives Views on Grouse Seasons

Robert S. Dorney, a Pittman-Robertson research biologist, said in the March Wisconsin Conservation Bulletin that grouse in the Badger State are down but they will come back as they always do. He said Michigan has proved it is not necessary to close the season when the population of grouse is low, and claims there is plenty of protection in a reduced harvest. The following is quoted from Dorney's article:

"On October 2, 1954, thousands of partridge hunters took to the (Wisconsin) woods. A few managed to get two or three birds, but the majority came home empty-handed. What went wrong?

"The spring of '54 was cold and wet. Because of the foul weather many adult hens died trying to raise broods; brood production was poor. Flush counts made just before season showed populations were down about 50 to 60 percent state-wide.

"There were local 'hot spots' where good hunting was yet to be found, but these areas were widely scattered. In most places the birds flushed wild, making shooting difficult. Only the veteran hunters stayed in the field; most of the grouse hunters gave up.

"Did the 1954 open season jeopardize our broodstock for 1955? Will the birds be able to make a comeback? To prepare to get the answers to these important questions the grouse research project banded about 260 wild partridges in 1953 and 1954 in parts of three counties. By checking hunters in the banding areas, plus use of a reward system, we found out how many banded birds were shot.

"The chart shows partridges were heavily killed in 1953 when they were abundant, but were practically untouched in 1954 when they were hard to shoot. It is evident, therefore, that the 1954 liberal season did not hurt the birds on the study areas since so few were killed. It is likely the lowered success throughout the state led to a similar loss of interest in hunting grouse.

"This same reason probably explains why Michigan was able to have a continuous open season during the lean grouse years from 1945 to 1947 and still have lots of birds by 1949.

"Wisconsin grouse hunters can continue to enjoy their sport, since a light harvest does not hurt the birds. If populations remain low in 1955 and 1956 we can expect a continued light kill. However, there is no reason why hunters should be deprived of a chance to get out into the woods by closing the season. When spring conditions are favorable for nesting we will again have excellent hunting such as we had from 1949 to 1953. Closed seasons will not help grouse come back."

How To Repel Rabbit Attacks

Every spring cottontail rabbits annoy Pennsylvanians by eating the bulbs and leaves of flowers. Later they raid vegetable gardens, nibbling peas, beans, and other greens.

Game protectors and trappers employed by the Game Commission box trap and remove many thousands of these unwanted bunnies from towns and cities every winter, thereby reducing potential damages. But some always remain to plague gardeners. Unfortunately, it is almost impossible to bring rabbits to trap in spring and summer. Choice foods then available cause the troublemakers to turn up their noses at bait.

In self defense gardeners use a variety of repellents and contrivances to protect their plants from rabbits. In the case of small gardens 18-inch mesh wire, 6 inches of it buried in the ground to prevent burrowing, solves the problem at reasonable expense. Openings in the mesh may be no larger than one inch if small rabbits are to be kept out.

Spray and dust repellents sold by merchants handling seeds and garden equipment are usually effective on gardens at nominal cost. Moth crystals poured in a line around the plot often prove an effective barrier to the invasions of Brer Rabbit. Gardeners, who must always battle bugs and worms in their vegetable patches, say rotenone has these desirable features when applied correctly: It destroys garden pests, turns away rabbits and is not injurious to humans.

Other commercial products—arsenate of lead, Good-rite No-Nib'l, lime, tobacco dust, and tincture of asafetida are some—are often effective. Directions on the package should be followed implicitly, however. If proper precautions are not taken some of these repellents may have a harmful effect on persons applying them or on those who later eat the sprayed leafy vegetables.

Border Cuttings Provide Wild Game Needs

One example showing the Pennsylvania Game Commission avails itself to the fullest extent of monies received through the Federal Aid in Wildlife Restoration Act, otherwise known as the Pittman-Robertson Program, is described in the following.

During the winter months, when the cultivation of food plots and much other work cannot be done by the Commission's food and cover crops, attention is given to seasonal operations of the land management program. Then the cutting of borders along woodlands, mountain roads, around food plots and other places where edge development is desirable becomes one of the main orders of business. These edge cuttings produce naturally a copious growth of good food and cover for practically all kinds of game. The most common plants that appear following such operations are: raspberries, blackberries, honeysuckle, dogwood, sumac, witch hazel, bittersweet, pokeberry, chokecherry, grapevines and viburnums of various kinds.

This year, during the short month of February alone, 72,631 linear feet of borders were cut on State Game Lands, the Allegheny National Forest and other areas excepting Farm-Game projects. These borders averaged 46 feet in width and comprised a total area of 77.3 acres. On Farm-Game projects 46,326 linear feet of woodland borders were cut with an average width of 30 feet, comprising a total area of 31.7 acres. Summed up, these borders so vital to game ran to 118,957 linear feet, had an average width of 39 feet and comprised a total area of 109 acres.



JUNIOR CONSERVATION CLUB at Farrell High School has action-packed program which has included safe gun handling instruction, winter feeding of game, stream improvement, farmer-sportsmen relations project, Wildlife Week display. Organized by John Chiodo, a trustee of the Farrell Sportsmen & Wildlife Club and senior high school math instructor, the club meets twice a month during school year.

Report Appraises Nation's Renewable Natural Resources Outlook

"U. S. A.—1975-2000 A. D.," a 40-page report published by the Population Reference Bureau, Inc., presents, in the first issue of a series of three, information to enable persons to better appraise the question, "Has the United States the material means to sustain its civilization?" This issue deals with natural resources which can be renewed—soil, water, grazing lands, and forests. Subsequent papers will inventory our non-renewable natural resources and will discuss the qualitative aspects of population change.

With a clarity and simplicity of presentation that is lacking in many reports on this complex subject, the bulletin states, "The ideological struggle of our time might be won or lost on the issue of helping less fortunate people achieve their desire for better levels of living." If the United States is to assume this responsibility, the report continues, the best known methods of production, utilization, distribution, and conservation must be applied. We are told that each rise in living standards of any population increases substantially the per capita consumption of materials and energy. Progress means a step nearer to industrialization, each advance requiring more and more goods and raw materials.

By 1975, the population of the United States is expected to reach 190 million people, 30 million more than there are today. By year 2000, the figure may be 200 million. Our forests, soils, waters, and grazing lands are not being used wisely; we are making little real progress in even sustaining their productivity. Robert C. Cook, editor of the "Population Bulletin," writes, "The whole resource management problem is one of the most critical problems facing our nation. To let default or apathy erode our national heritage is to commit a crime against future generations."

Single copies of this bulletin are available without charge from the Population Reference Bureau, Inc., 1507 M Street, N. W., Washington 5, D. C.

Summer Time Is Varmint Time

By Ed Shearer

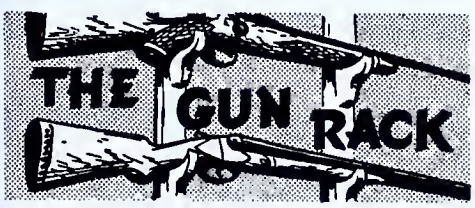
DROP into any gun store about this time of year and I'll bet you will find a couple of individuals of serious mein discussing rifles, scopes and loads. Object—to commit mayhem on woodchucks at amazing ranges.

Time was, taking a cut at a chuck or assorted varmints was strictly an extemporaneous affair. Any musket that would throw a chunk of lead with fair accuracy was considered good enough for the job at hand. Any character who even considered wasting good ammo on a chuck at 250 yards would have been dubbed slightly balmy. Not so today.

With the passing of time, varmint shooting has become big time business attracting thousands of new shooters annually. It has created a type of highly accurate, long range, flat shooting weapons called varmint rifles, with precision sighting equipment.

Among the experts, in this game, dusting off a chuck at 250 yards is not uncommon. I have never seen a dyed in the wool varmint shooter who did not yearn to bust a chuck at 400 yards. It has been done but like a hole in one at golf, I doubt that it will ever become monotonous.

A newcomer to the ranks of the varmint clan is usually bewildered by the array of rifles, cartridges and scopes. Especially so because every brother he asks swears by a different combination. Before making a choice there are some important things the newcomer should consider.



Do you intend to stalk your chucks, watch fields or drive along back roads taking the shots as they come? This is important since the method of hunting has a lot to do with the average range of your shots. It is an axiom in varmint shooting that the longer the range, the more expensive a satisfactory outfit becomes.

The type of country you intend to hunt, whether well settled rural or not, also has a bearing on your choice of cartridges. Those giving a loud report are frowned on in the more settled places and may cost you hunting privileges in some cases.

Another point to consider is do you intend to reload? Due to the small targets and the ranges you take them, a fair degree of skill is demanded. This means you will do a lot of shooting. So from an economy angle it may be desirable to reload. So keeping these things in mind, let's look at the different cartridges available. As the average man likes to buy his rifle and cartridges across the counter, we will eliminate the wildcats and stick to the commercial products. For strict varmint work, nothing can surpass the high velocity 22 caliber center fire cartridges developed for this type of shooting.

The 22 caliber Hornet cartridge was the first to be designed exclusively for varmint shooting. When Winchester started to load this cartridge in 1930, there being no commercial rifles on the market, I bought a Sedgely custom built rifle with a Springfield action and a Lyman 48 receiver rear sight. I was in the forest

service at the time and that rifle got a lot of use. A couple of years later I bought a Savage model 19-H with a 5 A Winchester target scope and found out what the Hornet would really do. The dead line jumped to 150 yards, while on chucks and similar sized varmints under good conditions I could bust one now and then at 200 yards.

Accuracy ran about 1½ minutes of angle which was gilt edge at that time. Killing power was very good on game it was designed for. Even tough old porcupines passed in their checks pronto, on a solid body hit. Curiously, I soon found that hollow pointed bullets would ricochet while soft points apparently gave no trouble. This was especially true at 100 yards and over. This is something to keep in mind in settled farming districts.

Due to the light bullets and the consequent high rate of loss in velocity, I found the Hornet quite sensitive to wind changes. This I believe accounts for most of its reputation for changing its point of impact unaccountably. I shot this rifle for some time on a well sheltered range and found no evidence to support this contention.

As a reloading proposition the Hornet is not difficult but somewhat limited in loads and powders it will handle. This is due to the small case capacity and maybe in part to having practically no shoulder angle. DuPont 4227 and Hercules 2400 will give the best results in the Hornet. Also the lighter bullets from 40 to 46 grains seem to deliver the best results. As pressures go up rather suddenly in small cases and because of the many barrels of different diameters that have been manufactured through the years, it is difficult to recommend full power loads. It's a case of know your barrel diameter and choose from there. A fine turkey load that is effective and not too rough on meat is a 45 grain Sierra bullet with 8 grains of Hercules powder. This gives a velocity of 2100 foot seconds with very low pressure.

A good squirrel load or for popping pests around camp is the Ideal gas check 43 grain bullet with 3.5 grains of Hercules Unique. The best

WOODCHUCK HUNTING with long-range, high power rifles can be pleasant and safe summer pastime BUT . . .





WATCH YOUR BACKSTOP! The hunter pictured on the opposite page may have his aim on a woodchuck in the field shown above but the farmer driving his tractor is too close for safety. Look before you shoot—and you will be more welcome on Pennsylvania's farms.

sighting I found with the scope was 1.5 inches high at 100 yards. This puts it right on the nose at 150 yards and 4 inches low at 200 yards. While not the most modern cartridge but for use in settled districts where the ranges run 150 yards or under it is still a very satisfactory cartridge. Its light report makes friends of the farmer and the light weight of most rifles make a day in rough country enjoyable.

The 218 Bee was placed on the market by Winchester in 1938 in the lever action model 65. The 218 Bee is a modification of the old Winchester 25/20 repeater case, using Hornet bullets. It was chambered for several different rifles since its appearance but today the model 43 Winchester is the only domestic rifle chambered for it. At present the 218 Bee ammunition is available in only one high velocity loading, with a 46 grain bullet moving along at 2860 foot seconds velocity. The accuracy of light rifles which I have shot off a bench rest ran 1½ to 2 inches at 100 yards.

The practical field results seemed to give little appreciable difference from the Hornet. From a handloading standpoint it is much better than the Hornet. The greater powder capacity of the case and sharper neck angle makes a wider selection of powder and loads possible. DuPont 4227-4198 and Hercules 2400 can be used at safe pressures with bullets running from 41 to 55 grains with good results. Number 4227 and 2400 powders work best with light weight bullets but with 50 and 55 grain bullets 4198 gave me the best results.

Due to the variation in case capacity between different brands of ammunition I would not recommend a full power load. The Bee is very sensitive to loading density and several published loads have caused serious trouble due to case variation. The best way is to start well under any published full power load and work up slowly with the particular cases you are using. For a small game load 4 grains of Hercules Unique with a 45 grain bullet either jacketed or lead gas check works out fine.

When sighted on the nose at 150 yards the bullet's point of impact is .9 inch high at 50 yards and 100 yards

and 2.75 inch low at 200 yards. Like the Hornet, the Bee makes a very satisfactory cartridge for settled districts where a light report is desired and the range will not be much more than 150 yards.

The latest varmint cartridge to hit the market is the 222 Remington. In a lifetime of shooting I do not recall another cartridge that attained the popularity of the 222 practically from the start. It seemed to have everything a large chunk of shooters had been wanting—an accurate, medium sized high velocity 22 caliber cartridge that you could buy over the counter thus assuring a steady supply of cartridges and cases. The loaded cartridge looks like a small edition of the 250 Savage with all the virtues of that sweet little cartridge and a shade more accuracy. I have shot hundreds of experimental handloads in various 222 rifles and got reasonably good accuracy out of all of them, when good bullets were used. The 222 has won its share at the bench rest matches which is sufficient evidence of its gilt edge accuracy.

As a handy off season or woodsloafing rifle it is tops. It will take crows at 200 yards and chucks to 250 yards. When conditions are just right I have seen this stretched some. With factory ammo the accuracy seemed to average just under 1½ minutes of angle. The 50 grain factory bullets were good killers on chucks, expanding well within the effective range of the rifle.

As a handloading propositicn the 222 really pays off. It has such a wide variety of loads it is not possible to cover them here. The most satisfactory full power load I found was 21 grains DuPont 4198 powder with the 55 grain Sierra bullet. This load gives factory velocity and is a better wind bucker. With this load sighted in for 200 yards—15 grains of DuPont 4227 with the 63 grain Sisk bullet is right on the nose at 100 yards, with Hornet velocity.

This is my turkey load. The Sisk bullet having a much tougher jacket than the Hornet is not so rough on the meat. In hunting turkeys I carry the 63 grain load in the chamber and full loads in the magazine. Then if a long shot comes up across big fields, a flip of the bolt and you're still on the nose, with the guess work left out. A good pest and small game load that costs little more than 22 rim fire long rifles is 9 grains of DuPont 4759 with the 48 grain Lyman gas check bullet. This gives 1¼ inch groups at 100 yards in my rifle.

With factory loads sighted in to strike one inch high at 100 yards the point of impact is 1.2 inches below aim at 200 yards. Sighted to strike 2.5 inches high at 100 yards, it is on the nose at 200 yards—3.9 inches below aim at 250 yards—and 10 inches at 300 yards.

For an all-round super accurate varmint rifle that is easy on the farmers ears, the 222 Remington is hard to beat.

The 220 Swift is the one commercial cartridge made to order for the brothers who yearn to bust a chuck two townships away. The 48 grain bullet traveling at 4140 foot seconds velocity gives a trajectory flatter than a thin dime. No other commercial cartridge has the blasting effect on Pennsylvania sized game. Anything from a buck to a chuck is wafted to his ancestors—sudden. I have shot and reloaded the Swift since 1935 and have made more long range kills with it than any rifle I have ever owned.

The accuracy of the 220 Swift is amazing. It will shoot under a minute of angle with careful handloading. But with all its good points, it is not the rifle for the beginner. For one thing an absolutely clear shot at the game must be had or the bullet may fail to arrive. It is expensive by the time you have it equipped with a suitable scope and its loud report will be objectional in some districts. Also it is not economical to



MODERN WOODCHUCK HUNTERS take great pride in their arms and ammunition, as well as their shooting ability at long range.

shoot with factory ammo.

In reloading it can be tricky as with any high working pressure cartridge and case life is short. By dropping the velocity to the 3700 ft. sec. bracket, I get improved accuracy, longer case life as well as flat trajectory. My favorite chuck load is 42 grains of DuPont 4350 behind any good 55 grain bullet. The velocity is just under 3700 ft. sec. and the accuracy, top hole. It is a good wind bucker and case life is not too bad. A good pest load is 12 grains of DuPont 4198 behind a 50 grain bullet. Velocity is about 1600 ft. sec. and is very accurate in most rifles.

Sighted on the nose at 300 yards it is 2.1 inches high at 100 yards—3 inches high at 150—2.8 inches high at 200—1.8 inches high at 250 yards—on at 300 yards—4.6 inches low at 350 yards and 9.5 inches low at 400 yards.

Summing up, the 220 Swift is the best commercial long range varmint rifle for the brother who wants to "take 'em way out yonder" and is willing to pay folding money for it.

There are some things not generally covered the beginner should know. Some rifles in the 22 caliber high velocity class have a tendency to throw the first shot out of a clean barrel away from its normal group. Just how far depends on the individual rifle. That is up to each hunter to find out and allow for or else foul the barrel before starting the hunt.

For instance my own Remington 722, a very accurate rifle, will throw the first shot out of a clean bore, one minute right and one minute high. On the other hand my Winchester 220 Swift puts the first shot out of a clean bore right in the normal group, which proves nothing.

The second thing the beginner soon finds out is the hot shots with their light bullets are very sensitive to wind. The longer ranges will give him some very wide misses due to this. Wind tables are of little use to the average man in the field. The best way to learn wind doping is to



PGC Photo by Cady

SAFETY IS ESSENTIAL in this highly specialized sport. Woodchuck hunters are urged to wear Day-glo type caps, and when shooting from permanent site, put up a flag of light cloth.

do a lot of shooting on windy days. As there is generally more or less wind blowing, you must acquire a working knowledge of it or resign yourself to a lot of misses.

Lastly don't plan a hot shot without putting a scope on it. Remember you can only shoot as good as you can see to hold. The most accurate varmint rifle is no better than any other rifle, without a scope on it. In general a 4 power scope takes care of the Hornet—Bee class. The 222 Remington takes at least a 6 power while the 220 Swift will need from a 10 power on up to get the best out of them. Also the longer the ranges the more a good scope will cost you.

But no matter what outfit you select, whenever the birds come north and the buds blossom out, you will say to yourself—Summer time is varmint time.

Tips For Woodchuck Hunters

Pennsylvania "summer hunters" are now limbering up their varmint rifles and taking to the field in search of woodchucks. This popular sport offers a real challenge to many a rifle enthusiast and requires keen eyesight, a knowledge of the big marmot's habits, cautious stalking skill and good marksmanship. Asked for permission to hunt, many farmers welcome careful, safety-conscious hunters.

Your Game Commission reminds woodchuck hunters of the following legal requirements in this fast growing sport: from July 1 to September 30, inclusive, legal hunting hours are 6 a.m. to 7:30 p.m., *Eastern Standard Time;* from October 1 to June 30 hunting hours are from 7:00 a.m. to 5:00 p.m., *Eastern Standard Time* or such other hours as may be established under seasons and bag limits for the new hunting license year starting September 1. A current hunting license must be worn in plain view on the hunter's back. Sunday hunting for the woodchuck, a game animal, is unlawful.



Chinchilla Ranching

By Ormal I. Sprungman

Photos courtesy of the Chapman Chinchilla Farms, Inglewood, Calif.

NEARLY every Pennsylvania sportsman is familiar with the chinchilla and its costly fur, but few realize that a westerner is credited with importing the first animals into this country, thus springboarding a new fur-breeding industry.

No fur gives milady a bigger thrill than the chinchilla, a rodent-like animal about 10 inches long, which resembles a cross between a rabbit and a squirrel. The Chincha Indians gave the animals their rare name, and when the Spaniards discovered that the blue-gray chinchilla fur was in great demand, a huge industry decimated the population and almost resulted in complete extinction of this Incan treasure.

In 1918, California's own M. F. Chapman organized a 23-man expedition to climb high into the Andes and fine-comb South American countries for one of the earth's oldest inhabitants. But in four years of constant searching, only 18 wild chinchillas were found. Eleven of these survived the return trip to Inglewood, California, where Chapman founded what later became the largest chinchilla ranch in North America. Some of his prize entries have won top awards in national chinchilla shows.

This unusual little animal eats scarcely two ounces of food per day, according to Reginald E. Chapman, owner of the unique farm. This consists chiefly of prepared chinchilla pellets and bean hay. The chinchilla litters on the average of twice a year with an average of two babies each litter, born with eyes open and bodies fully clad with fur. These

CLEANLINESS IS IMPORTANT in raising chinchillas. The interesting furbearer requires careful handling and anyone contemplating raising them should realize it is no "get rich quick" plan. Recent fur auction, first of its kind in America, found buyers leery of fabulous prices once claimed for pelts.

M. F. CHAPMAN, founder of the chinchilla industry, is shown below with one of the original animals he imported from South America.



young chinchillas require 12 months to mature, weighing between 14 to 24 ounces, and have extremely clean habits, sleeping all day and feeding at night. They take their daily "bath" in a shallow tub of dusty sand, and usually are monogamous. Their life expectancy is eight years.

A good pair of breeders once brought in excess of $1650, ranging as high as $2500. The present chinchilla population in the United States is estimated at slightly over 300,000 animals—all descendants of Chapman's original importations.

Compared with human hair, the chinchilla hair root sprouts up to 100 hairs which are both dense and smooth in texture, producing a fur that is luxuriant, indeed. Gentle as well as lovable as a pet, the chinchilla is a wonderful little creature to snuggle up to—or into—Chapman claims. And he should know!



FINAL AIM OF CHINCHILLA INDUSTRY are fur pieces and coats, samples of which this young lady shows off to good advantage. Chinchillas produce luxurious furs but demand so far has been disappointing to fur farmers.



AMERICAN GAME BIRDS IN FIELD AND FOREST

By Frank C. Edminster

Illustrated with photographs, charts and maps. Published by Charles Scribner's Sons, 597 Fifth Avenue, New York 17, N. Y.
490 pages. Price $12.50

It required eight years of research by the author to gather the material, photographs, and drawings necessary for the production of this volume. It is the most complete and modern book on its subject yet published. Frank Edminster is an outstanding biologist, wildlife management expert and naturalist. In his newest book he has taken 15 of the most popular American game birds and devoted a chapter to each. With the aid of many illustrations, he presents all the known, authentic information regarding their life history, ecology, present forms of management and their relationship to man himself. The author is one of the few writers in the outdoor field who writes in a language that is enjoyed by the professional technician and is fully understood by the layman sportsman. All of the game birds native to Pennsylvania are fully discussed. The book makes one of the finest reference volumes for any sportsman's bookshelf.

THOSE OF THE FOREST

By Wallace Byron Grange

Illustrated with thumbnail sketches by Olaus J. Murie. Published by the Flambeau Publishing Company, Babcock, Wisconsin, 1953.
314 pages. Price $4.75

From the lee side of a sheltering spruce on a snow-driven night, through the succeeding seasons, and through the varying hare, Snowshoe, and his son, Lepus, the reader is drawn deftly into this wonderful book. The snowshoe rabbits are actually a means of telling a delightful and revealing story of all the forest animals. Although the term ecology is not mentioned in the text, this book is a popularly written, ecological record of the relationships animals have to their physical and biological environment. It expresses the basic and unavoidable dependence of all animals on each other and on their surroundings. Scientifically true and based on a lifetime of personal experience and observation by the author, this book is one of the best popularized accounts of the lives of native North American animals ever published. Its style, like its subjects, is vivid and dynamic. It should be a great favorite with all persons whose curiosity is aroused by the workings of nature.

SPINNING IN AMERICA

By Ray Ovington

Illustrated with many black and white photographs. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania. 1952.
205 pages. Price $5.00

This is a "how-to" book on spin fishing, both in fresh and salt waters. Like any book of this scope, it presents detailed discussions of the various kinds of tackle that may be used by the angler. Rods, reels, lures, lines and other necessary pieces of equipment all come in for description. Instructions are given on the use of spinning gear and how to get the most satisfactory results from such use. Tips are given on angling methods for many species of game fish in salt and fresh water, with many interesting accounts of the author's personal fishing experiences.



OUTDOOR FUN WITH A FUTURE



Wildlife Photography

By Ted Pettit

WILDLIFE photography is a sport that may easily provide all the thrills of big game hunting or game fishing. The nice thing about it is that you can go camera hunting right in your backyard or in neighboring parks, woods, fields or marshes. Traveling long distances is not necessary. More than that, you can hunt at any time of year. There are no closed seasons and you do not need a license.

If you are successful you will have a trophy that is every bit as spectacular as a bear skin or a deer head. For a good photograph of a duck in flight, a trout jumping or a deer feeding along the water's edge may be a work of art. To get it takes more skill, more time, more patience and more ability than it takes to shoot an animal or a flying duck.

To be a successful wildlife photographer, first you must know something about animals. Let's start with birds.

Know Your Birds

After you have watched birds at a feeder or bird bath, or feeding naturally on the ground or along the water's edge, you will notice that they have certain habits that will help you photograph them.

For example, if you have placed a bird bath in your yard and have placed a stone or rock in the middle, you will probably notice that a bird perches on the rock for a second or two before it takes a bath.

If you watch birds at a feeder you probably have noticed that birds perch in one spot on the feeder before starting to feed. Perhaps they perch on the tree trunk, or atop the post, or on top of the feeder. But usually they will sit there for a second or two, or even for a minute before sampling the seed or suet that you have put out for them.

In any case, they sit still for a short period of time, looking around to be sure the coast is clear. That's the time to photograph them. That's what is meant by "know your birds." Watch them long enough to observe the habits that will make your photography job easier.

Camera Equipment

Fortunately, you do not need expensive equipment for wildlife photography. You can use almost any kind of a camera and get wildlife pictures. But like any other kind of photography, the better equipment you have, the better pictures are possible, provided you know how to use your equipment.

However, two things are important for bird photography, and without them you are wasting time and film trying to get pictures. You will need a camera to which you can attach a portrait attachment or telephoto lens; and you will need some way of setting off the camera from a long ways away. If the camera has a flash attachment too, so much the better. You can make a device for setting off the camera from a distance; but you must buy a portrait attachment, supplementary lens or telephoto at your local camera shop.

The portrait attachment or telephoto is important because you need some way of magnifying the bird or enlarging it on the negative. Birds are quite small and at six to fifteen feet, which is about as close as you can get to them, the image on the negative may be so small that you can barely see it. If you try to enlarge the picture with an enlarger, you have to "blow it up" so much that the grain of the film will greatly detract from the picture.

Portrait attachments are lenses that fit over the regular lens on the camera. Read the instructions that come with the attachment so you will know how to focus. Telephoto lenses magnify a great deal, and are used to replace the regular lens in certain cameras. However they are quite expensive. But they are better for bird photography.

Remote Control or Blinds

The secret of good bird photography is to get as close to the bird as possible without scaring it away. You can do this in two ways: Either use a blind as is described later or place your camera close to the bird while you stand fifty or a hundred feet away. This system is called "remote control."

To use a blind, set it up eight to fifteen feet from where the bird will be. Set your camera on a tripod inside the blind. Focus the camera on the spot where the bird will be and wait for it to come.

An easy-to-make remote control gadget can be made from a hinge, rubber bands, a cable release, a small nail or stick and a long piece of string. The illustration shows how to do it.

Fasten the hinge on the tripod so that it opens and closes easily. Place the cable release through a screw hole in the hinge so that the closing hinge will press the release and open the shutter. Fasten two or three strong rubber bands around the hinge to hold it closed.

Force the hinge open and hold it open with a small nail or stick of wood. Tie a long piece of strong string to the nail or stick. When you pull the cord and pull the nail or stick out, the hinge closes and automatically trips the shutter by pressing the cable release.

Shutter Speed

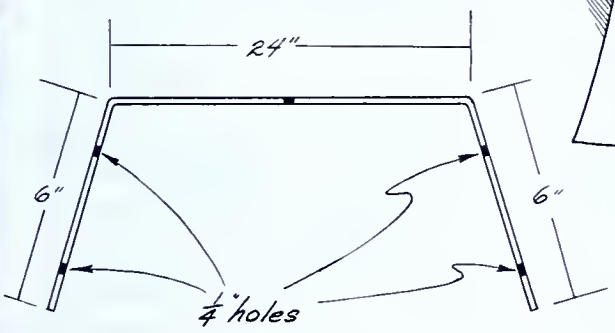
If you have a choice of shutter speed on your camera use at least one hundredth of a second. If not, wait for the bird to be absolutely still before taking the picture. Birds are small, but they move quickly and can easily cause a blur on the negative. Wait till they quiet down and pose just right. You will "miss" many pictures at best without trying for long shots that rarely turn out well.

Focus

If you can adjust the lens opening on your camera, close it down as far as possible depending upon the shutter speed. There's a good reason for this. The smaller the lens opening, the greater will be the depth of focus. When you photograph as close as eight feet, the depth of focus is small enough at best. All the extra you can get is all to the good.

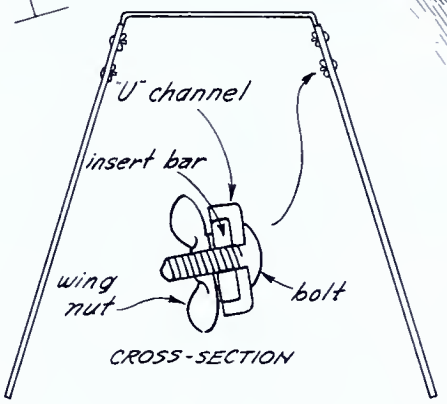
It is important to focus carefully and accurately. An out-of focus bird is a queer looking thing and does not make a good picture. But when you take pictures of birds as close as

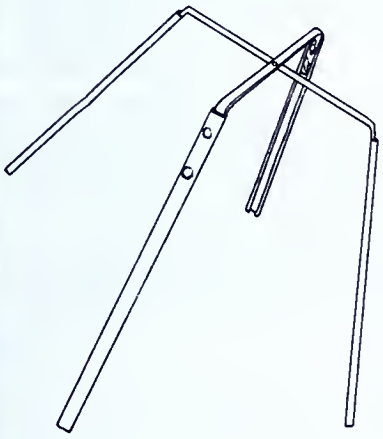
HOW TO BUILD A BIRD BLIND



Ⓐ BEND TWO 36" PIECES OF ALUMINUM INSERT BAR AS SHOWN. DRILL FIVE ¼" HOLES IN EACH PIECE.

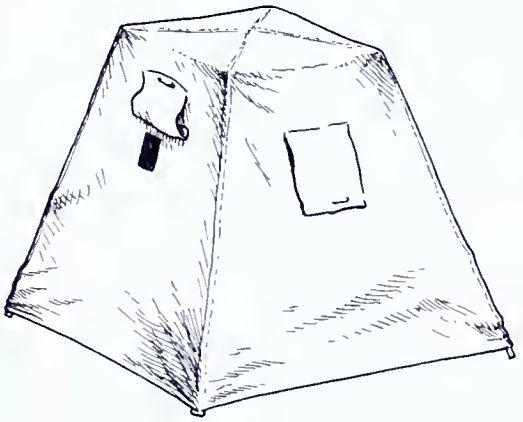
Ⓑ DRILL CORRESPONDING HOLES IN EACH OF FOUR 48" STRIPS OF "U" CHANNEL STRIPS AND ATTACH WITH BOLTS & WING NUTS





Ⓒ JOIN THE TWO "ARCHES" WITH A BOLT AND WING NUT THROUGH THE CENTER HOLE, AS SHOWN AT THE LEFT. BEND LEGS SO THEY ARE 38" APART. CUT FOUR PANELS OF UBLEACHED MUSLIN TO FIT SPACES BETWEEN LEGS, WITH ALLOWANCE FOR SEAMS.

SEW MUSLIN TOGETHER TO FORM COVER FOR THE FRAMEWORK. CUT SLOTS IN TWO SIDES, THROUGH WHICH YOU CAN SNAP PICTURES. THE FLAP IS PINNED OUT OF THE WAY WHEN SLIT IS IN USE.



Ned Smith

you must to get good pictures, sometimes the front half of the bird will be in focus, and back half will not be. That's why carefully focusing and depth of focus are important. You want good, sharp pictures with the entire bird in sharp detail.

If it is a toss-up as to whether you shoot at a hundredth or a fiftieth at let's say f 6.3 or f .8, use the fiftieth at f .8 and wait till the bird is still. If you can shoot at a hundredth of a second at f .8 so much the better. If smaller openings are possible, use them at one one hundredth of a second.

Films

For black and white pictures, panchromatic films with a Weston rating of 50 are probably best for all around work. But you will need good light. If you can use flash bulbs, use films of this sort. If you cannot use flash and the light is poor, use one of the "super" panchromatic films with a Weston rating of 100. But be sure to have the film fine grain developed.

If you use color in the woods, or where the light is not good, you almost have to use flash for best results. Color film is slow, and frequently lens openings greater than you can get on the average camera are necessary.

Tripods

Always use a tripod when taking bird pictures, except birds in flight. First of all it's easier. You can set the camera on a tripod, focus the camera on the perch and wait for the bird to come along. Secondly, you can be more sure of sharp pictures. Bird photography is difficult as it is, without having to worry about holding the camera steady. Tripods will help eliminate this problem.

Backgrounds

"Watch your background" is an old adage in photography. How many times have you seen snapshots of friends, showing a person with a clothesline seeming to go in one ear and out the other, or a picture of a person with a tree growing out of his head? How many pictures have you seen where the background was so confusing that the main subject was lost?

With bird photography, backgrounds are especially important. The bird may blend into the leaves so you cannot see it, or the background of leaves may be confusing so that your attention is attracted to it instead of the bird. Try to get the bird against a plain background—sky or water or distant landscape. If you focus critically on the bird the background may be way out of focus and thus be unobjectionable. Another stunt is to try to get the bird in good light so that the background is under exposed and quite dark. The contrast will make the bird stand out.

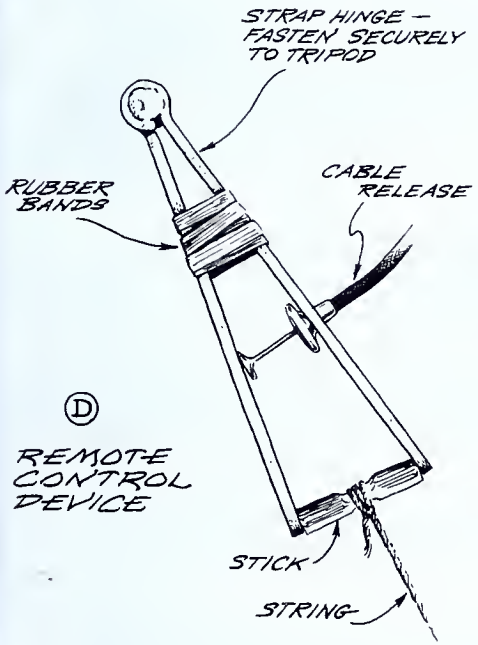
But there are other tricks to try too. They are rather easy. One of them can be used near a bird bath.

Two or three feet from your bird bath drive a stake in the ground so that the top is a foot or two higher than the bath. Drill a hole in the stake on the side toward the bath, about a foot higher than the bath. Cut a branch of a tree and shrub and insert it in the hole so the branch extends out over the bath.

Most birds will perch on the branch for a few seconds before taking a drink. When you find exactly where they perch, focus on that spot and wait for the bird to come. If you arrange the pole right, and the camera in the right position, you should be able to get the bird in bright sunlight and standing out against the sky or other uncluttered background.

The second stunt is much the same but makes use of food to attract birds.

Drive two stakes in the ground, one three feet high and one five feet high and about three feet apart. Place a wooden tray of food on the short stake and insert a branch in a hole in the long stake so that it is a



foot or two above the food. As birds come to feed, they will perch on the branch for a minute or two before jumping down to feed.

The same sort of trick also works sometimes at bird houses.

Natural Settings

Many times as you go on hikes you will find places where birds feed or bathe in natural areas. There may be a small pool or a spring in the woods where they come to drink, or an old stump or log near where they feed.

Watch the spring for a while or find a favorite perch. Try putting some food on the stump or log and perhaps you can attract birds that you do not see in your yard.

Use the same techniques as in your yard—either a blind or a remote control gadget.

Frequently you will find wild ducks in winter in parks or nearby ponds. You can attract them into camera range by feeding them corn or bread crusts. They may become tame, or they may come to feed only after you have walked away. The trick is to put "bait" (food) in the water, set up your camera on a tripod, hook up your remote control gadget and then walk away and hide behind a tree. When they come to feed—click, you have another picture.

Sandpipers along the river or mudflat can be photographed in much the same way. Here's how to do it.

Push two little sticks in the sand or place two shells a few feet apart. Focus on the space between the sticks or shells, with the camera on a tripod ten feet away. Hook up the remote control and walk back a hundred feet. Wait for the birds to walk in between the shells. Or, ask a friend to walk slowly along the beach, and "walk" the birds between the shells. When they get in just the right position, take the picture.

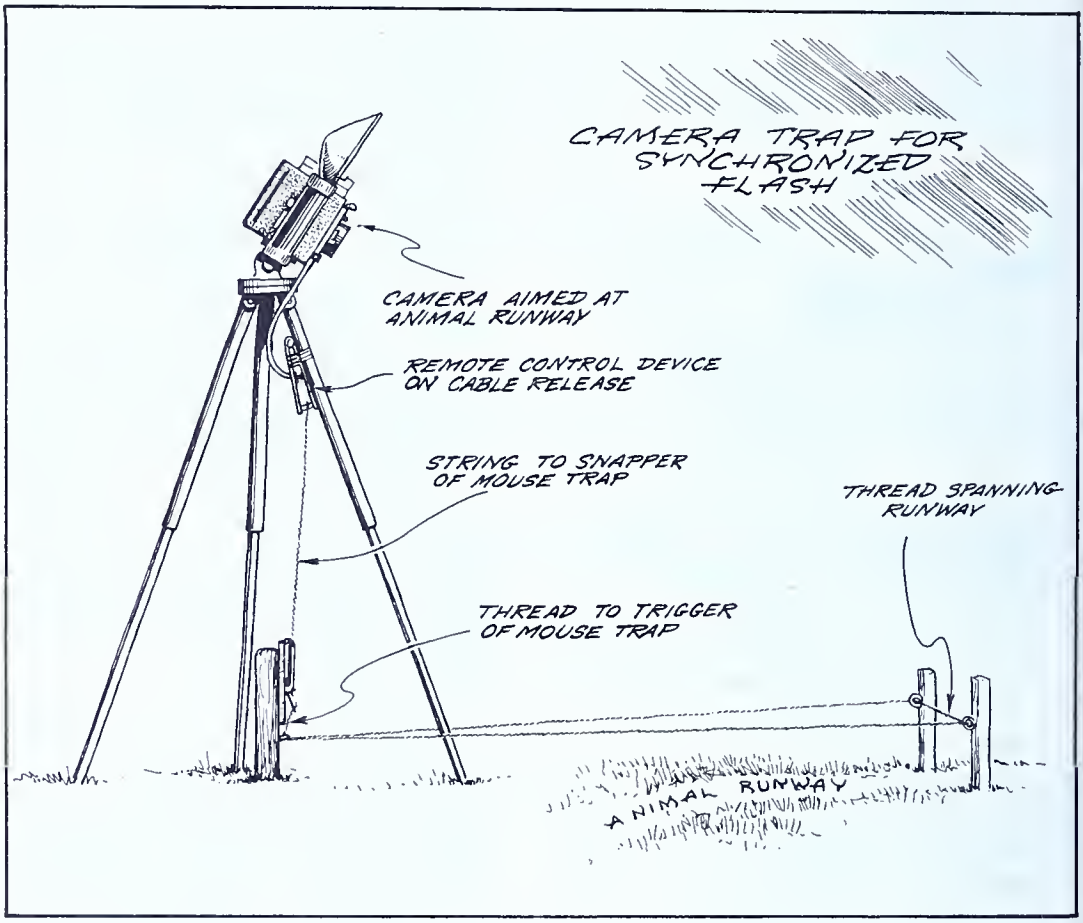
Bird Blinds

A blind or a "hide" as it is called in some places is simply a device that will conceal you and your camera so that you will not frighten animals. It may be a small tent if you have one, or a specially constructed portable blind that is more easily set up and taken down. If you have a small tent, use it. If not, here is a way to make a blind that is inexpensive, light weight and easy to use. All the materials are available from Sears Roebuck or your local hardware and drygoods shops.

The materials needed are: one piece $\frac{1}{8}$" x $\frac{1}{2}$" x 8' aluminum insert bar, or similar aluminum molding; 2 pieces aluminum U channel $\frac{5}{8}$" wide and 8' long, or similar aluminum molding (see page 1085, Spring 1955 Sears catalog); 8 yards unbleached muslin, 40" wide. Total cost at Sears is less than $5.00.

First cut two pieces of the aluminum insert bar each three feet long. Bend them as shown in A in the illustration. Drill a quarter inch hole at each of the points indicated, in each piece of the insert bar.

Next, cut the U channel strips in half, so you have 4 pieces each 4 feet long.



Then slide a strip of U channel aluminum over each of bent pieces of insert bar as shown in B. Mark points in the U channel to correspond with the holes in the legs of the insert bars. Drill holes in the U channel at those points.

Use ¼" bolts and wing nuts to fasten the U channel legs securely to the bent pieces of insert bar. Having done this, you will have two sets of legs shaped like flat U's, standing about 4 feet high.

Now place one set of legs over the other so that the insert bars cross each other as shown at C, and insert a bolt in the center hole. Fasten it securely with a wing nut. You now have the frame for the blind.

Set it up on the floor or ground and bend the aluminum legs carefully so that they are about 38" apart all the way around.

Next, cut the muslin into four pieces, each 40" wide and about 6 feet long. Get someone to help you, and do this:

Hold one piece of muslin up against one side of the frame, from the floor to the point where the bolt in the top holds the frame together. (The shaded area in illustration C.)

Use a crayon to mark the muslin so you can cut it in the shape needed. Cut it about an inch larger than necessary. Do the same thing for the other three sides.

Now sew the four pieces of muslin together with good strong seams. When you are done you will have sort of a "parachute" of muslin that fits over the aluminum frame. Perhaps someone with a sewing machine can help you do the sewing.

If the muslin fits too snugly, bend the aluminum legs in a little. If it is

too loose, bend the aluminum out to take up slack.

Cut slits in two sides so you can stick your camera lens out. Above each slit, sew on a flap to cover the slit when not in use. Hold the flap up with a safety pin when you are photographing out that side of the blind.

Using the Blind

When you get your blind set near a bird feeder, pond edge, nest or other suitable place, be sure that the cloth is stretched tight and that there are no loose pieces to flap in the breeze. Nothing will frighten birds any easier.

You may want to camouflage the blind in some way, such as covering it with grass, boughs or branches. This cover will help it blend into the background and be less visible to birds.

Then walk around the blind and see if you can see through it. If you can, a bird can and your movements may frighten it. If you can see through it, cover up the point where light passes through.

Crawl inside the blind and make yourself comfortable. Open the peephole and focus your glasses on the nest or feeder or other place where you expect birds to be. You will be in for many interesting minutes, especially if young birds are in the nest.

Camera Traps

Most mammals that you may want to photograph—deer, raccoons, possums, skunks or even bears—are more active at night than during the day. That means that a different technique is required, one that will call for use of flash to light up the subject.

If your camera is the kind that is synchronized for flash—that is, when you push the shutter release, the flash goes off at the same time—you are in good shape. Camera traps are easy to make. If you use a box camera or the kind that does not have synchronized flash you can still get good pictures, but using still a different technique.

First though, you will need to find an animal runway or a place where animals feed, or a place where you can attract them to bait. Set your camera trap at such a place, and the animal will take its own picture.

Synchronized Flash

If your camera has synchronized flash, you will need one of the remote control devices shown in illustration D. Set your camera and flash gun on a tripod with the hinge "gimmick" to operate the shutter release cable. Prop open the hinge with a small stick. Here's how the animal trips the shutter:

On each side of the runway, or where the animal has to walk to get the bait or food, drive stakes in the ground as shown in E. If you are after skunks or raccoons, use stakes only a 6"-8" high. If after deer, use stakes three feet high. In each stake, fasten a small screw eye as shown.

Under the camera tripod, drive another small stake in the ground and fasten an ordinary mouse trap to the side of the stake as shown. Run a piece of string from the "snapper" on the trap to the stick in the hinge so that when the trap snaps, it will pull out the stick and set off the shutter and flash.

Now run another strong thread from the mouse trap trigger around through the screw eyes on the stakes and back to the trigger. When an animal hits the thread in any way, it will trip the mouse trap and take the picture. Focus the camera on the runway where the animal will hit the thread, or on a line between the stakes where the animal will be when he trips the shutter.

Try out the device several times yourself, before you put film in the camera. Be sure it works easily before you set it some night for an animal.

Open Flash

If your camera does not have synchronized flash, you will have to use

a different method, but the principle is the same. Set your camera on a tripod or post and focus or aim it at the point where the animal will trip the trap.

Instead of using a regular camera flash you make your own. Get an ordinary lamp socket in a ten cent or hardware store; six feet of lamp cord; and a metal reflector that screws on the threads on the socket. Get 4 flash light batteries and two steel washers. Follow illustration F. to set up the trap.

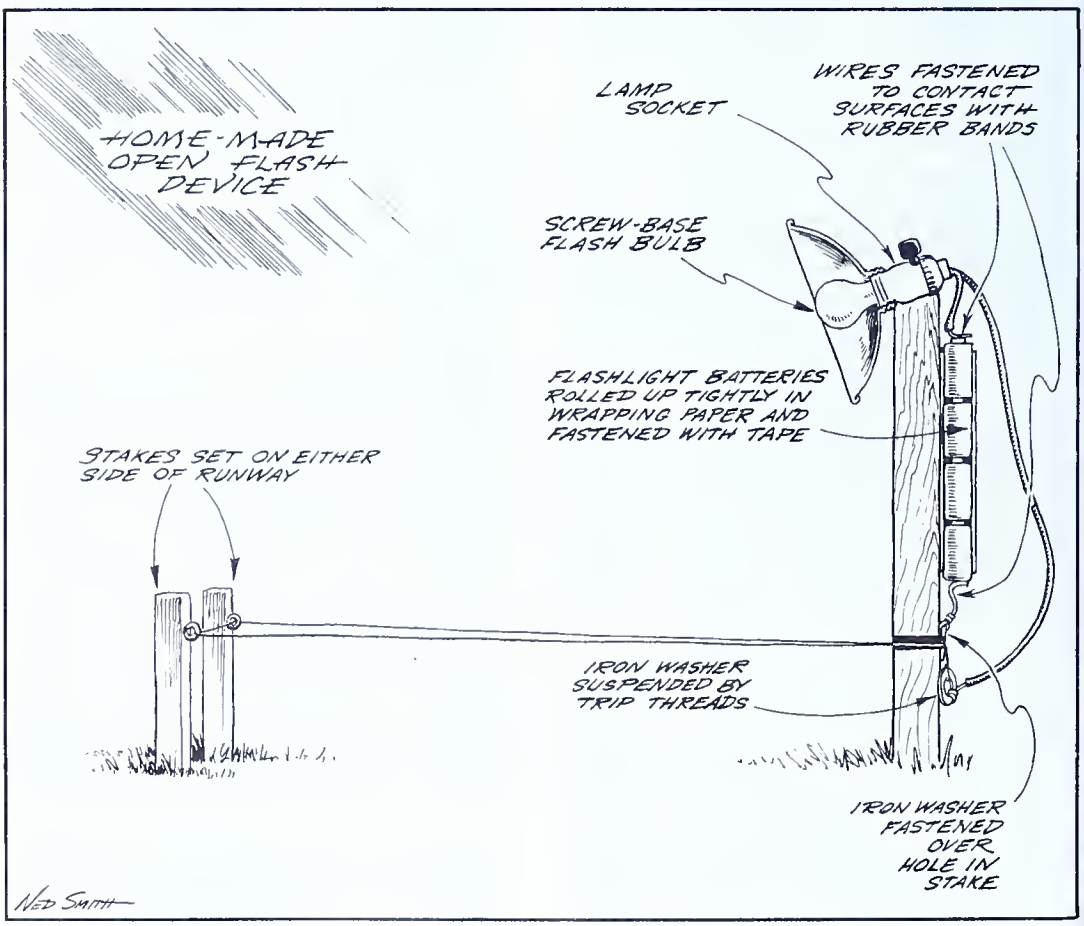
Drive a stake in the ground about ten feet from the trap. Fasten the socket to the top of the stake and fasten the reflector to the socket so it points at where the animal will be. Use flash bulbs that have a screw base and screw them in tight. Hook up the wiring as shown in the illustration.

After dark, set your trap. Get the flash bulb device ready and set. Place the camera shutter on time. When everything is ready, turn off your flashlight, and open the camera shutter. Carefully sneak away and watch. Be sure though, that there is no light that can enter the camera lens and expose the film.

When you see a flash you'll know something tripped the shutter. Run back and close the camera shutter and change the film. Set the trap again and wait for another picture.

"Grab Bag" Pictures

Setting camera traps is a lot of fun. You cannot really tell what you will get. You may get what you're after, or you may get something else. It's kind of like a grab bag. What you get may be what you want—or it may be a dog or cat. But that's what makes it fun.

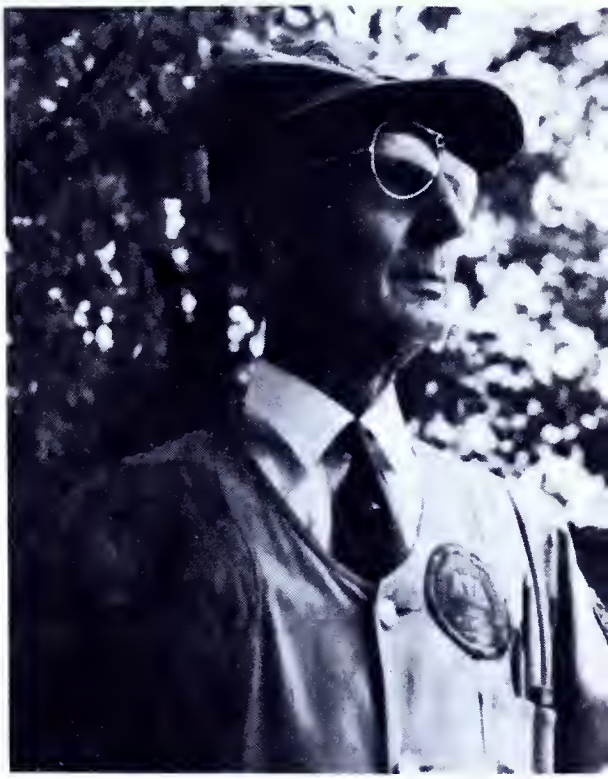




DOC RAYMALEY and the KONNE-YAUT INDIANS

FOR 44 years, Doc Raymaley, of Wilkinsburg, Allegheny County, has been actively engaged in trapshooting and affairs of the outdoorsmen. It has been a devotion with him, unselfish and always avoiding the limelight. Not satisfied with the attitude of "let George do it," Doc has been active and contributed many hours and considerable financial help to aid Pennsylvania's conservation program. A graduate of the University of Maryland and still a practicing physician at Wilkinsburg, he is now 77 years young.

Together with Ross Leffler, John M. Phillips, Charles Hobson and others, he helped form the Allegheny County Sportsmen's League and also helped make the early days of the State Federation a success. He was League president for seven years, vice-president of the Pennsylvania State Sportsmen's Association (the parent group of the trapshooters), and has been High Chief of the Konne-Yaut Indians. Doc is a charter member of this active shooting Association and has attended all of their pow-wow's since their start 36 years ago. Even the excitement and pressure of the Grand American trapshooting classic at Vandalia, Ohio are no obstacle for Doc; he is on the firing line along with the best of them. He has won



numerous events in his many years of participation and has a lifetime average of 87% on the clay birds.

He first started hunting and fishing when he was 12 and his interest and enthusiasm has never wained. His first love was quail hunting but he's a turkey hunter now. He mentions with a whisper, "It's easier going." Like all true sportsmen, he would like to leave the outdoors in as good, or better, shape than he has found it.



Don't Hurry That Buck

My story starts on October 24, 1953—the last day of the Special Archery season. I and three companions were hunting a farming section between Kane and Lanty Corners which we are familiar with. The preceding evening the one friend, whom I will call "Huck," shot at four different bucks but he was entirely too far away to have even a fair chance of scoring a hit.

It was 2:45 p. m. when we parked the car and started through the large cut fields back to where we had planned to take our stands for a last attempt to bag a deer. After discussing briefly just where each of us had decided to watch, we split up and each went their own way. All but one of us had chosen the edge of the fields where the deer always came in the course of their early evening feeding.

I settled down at my watch at 3:00 p. m. after first scraping away the leaves, twigs, etc., and sprinkled a little deer musk in the grass surrounding me. Some fellows think that this is "junk" but I believe it helps very much to kill the human odor in the immediate vicinity when on watch.

After setting there for what seemed ten minutes, I decided I would rather move around till the last hour or so. At 3:10 I moved from the fields into the wooded area which was made up mostly of young maple and a few hemlock. I slipped very quietly down an old road which made its way along the top of a ridge, then down into a very deep hollow. Although my progress through the woods was noiseless and slow, I saw no game. I was in the process of finishing a circle through the woods back to my watch when I stepped out on the old dirt road. There, 45 yards from me, was a deer feeding in the corner of the field, coming slowly in my direction. The instant I saw it, I froze in my tracks. The deer slowly raised its head and looked directly at me for what seemed three to five minutes before it decided I belonged there. It then lowered its head and again began feeding. Just as it moved its head again, I saw the rack—not large but one any archer would be proud to have hanging in his den at home. It was then I felt my heart pounding in my chest. It sounded like a far away gas well being pumped.

Very, very slowly I moved across the road and near the edge of the bank that partly hid me from the deer. He again raised his head and looked directly at me. I felt the cold October breeze hit me in the back of the neck, blowing what I thought was directly toward the buck. I began to feel quite doubtful that I would get my shot. But he didn't seem to get my scent as he continued to feed directly toward me. He was then about 35 yards away. The way he was coming, I decided to wait till he stepped between two clumps of high grass before I would loose my first arrow. Sure enough, he stepped in that hole not 30 yards from me broadside. I very slowly and cautiously drew to

full draw, loosed the arrow, and watched it whistle inches over his back. He whirled, took two short jumps, and stopped again, not knowing what was taking place. I drew another arrow from my quiver and knocked it on the bowstring. Again I shot and missed but this time he decided to stay where he was standing. The third arrow went to the right of my deer and I knew I wasn't holding right. On my fourth shot, I held some distance to the left and let the string slowly slip off my fingers. I watched the arrow on the straight path to his shoulder. It hit with a light "thud" a few inches in back of the front shoulder but a little high. With the broadhead piercing the hide and flesh, the buck half-whirled and jumped into the brush. On his first leap he broke the cedar shaft as he passed a small sapling.

The minute he jumped, I also turned and ran down the road parrallel with my deer. He didn't seem to know I was following alongside him for he slowed down and started walking. Due to heavy underbrush I was unable to shoot again, but I merely followed him along the road. He wasn't more than 40 yards inside the brush and I could see his every movement. The next time I saw him completely, I could see the wound was bleeding freely. It was then I saw him go behind a small clump of maples and I marked the spot by putting a red handkerchief on the road with the corner pointing to where I had last seen the deer.



By then it was 3:35 so I decided to sit down for a smoke and give him some time to bed down. I must have been sitting there 15 minutes when my friend "Huck" came up the road and asked me if I had found my buck. After relating the story to him, we decided to wait until 4:15 before tracking him. This is where we made our biggest mistake. Give your wounded deer all the time possible before trying to locate him.

After spending the longest 45 minutes I ever spent in the woods, we went down and found the blood trail in the leaves. At first the buck bled very freely and the tracking was easy. But as we progressed, the blood trail diminished rapidly. Finally it ended entirely. It was then that the trouble began. We tried following the tracks in the upturned leaves but very soon, these also seemed to end entirely.

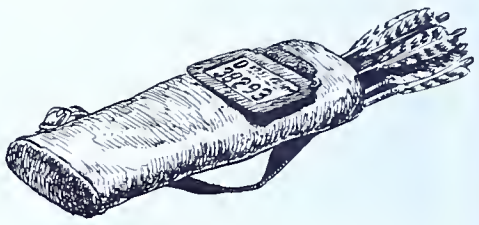
As the shadows were beginning to fall fast, I decided to go where I figured a crippled deer would most likely go when in serious trouble—down hill and for more cover. I was moving along very slowly, looking ahead as far as possible thinking I might possibly get another shot. As I was approaching a low hanging hemlock, a sudden crash was heard to my right. As I turned my head, I saw the buck bound out from under the hemlock and attempt to hurdle a three strand wire fence. He must have been a little stiff for he hit the top strand and fell to the ground on the other side. He quickly got to his feet, however, and again was running through a field of high goldenrod toward the road. It was there that I

last saw my crippled deer. By then the season had come to a close and my buck was nowhere to be found.

We all finally assembled at the car once more and decided to find the local Game Protector, tell him the story, and hope he would permit us to try locating the deer the following day. After asking a few people where we could find the nearest Game Protector, we finally were directed to the home of Bill Carpenter in Mt. Jewett. We found Game Protector Carpenter at his house and after showing him the piece of broken arrow and telling him the story, he decided to meet us at 8:00 a. m. the following morning to help us find the deer.

The next morning six of our party met Bill and his brother and began the search. We searched from 8:00 to noon without ever finding a trace of the buck.

What I would like to pass along to the fellow archer is simply this: If and when you get an arrow into a deer, don't push him for at least two to three hours at the least. Let him



go. This may seem like a long time but it's certainly worthwhile waiting. Don't bother your buck in the least, giving him plenty of time to lay down and really stiffen up. If I would have known that the Game Protector would have allowed us to look for my deer in the morning, I would never have tried to find him that evening.

I also would like to take this opportunity of thanking Mr. Carpenter, his brother, and all the five men who helped me look for my deer. If at any time you have a problem like this, don't hesitate to see your local Game Protector. They can and will really help you, if it is at all possible.

A Sportsman,
North Apollo, Pa.

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sylvilagus transitionalis

or COTTONTAIL RABBIT



General Description: Grayish brown above, white below. Black spot between ears. Average length 16 inches; weight, slightly more than 2 pounds. Tail about 2 inches, 4 toes on each foot.

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THE STORY BEHIND THE COVER

IN a glass case at the United States National Museum in Washington, you can see a somewhat time-worn specimen of what once was the most abundant bird in North America. The label reads: "Passenger Pigeon. Last of Its Race. Died at Cincinnati Zoological Garden, September 1, 1914. Age 29 years."

Yes, the passenger pigeons are gone—vanished into eternity. This month's cover painting by Dr. Poole symbolizes the beauty, the grace, and the value of a living thing never to be seen again by human eyes. As Aldo Leopold put it: "Men still live who, in their youth, remember pigeons; trees still live that, in their youth, were shaken by a living wind. But a few decades hence only the oldest oaks will remember, and at long last only the hills will know."

The story of the passenger pigeon is a black page in American history. And yet, who can say what caused it? Once so numerous that their flight darkened the sun, they probably numbered from 3 to 5 billion when white men first settled in America and may have formed 25 to 40 percent of the total bird population in the United States. What had taken eons of time to produce was completely destroyed in a relatively few years. With axe and fire, plow and rake, one living species began to destroy the habitat of another. And then, finally, with dynamite and net, gun and gas the last wild whisper of "blue meteor" wings was stilled.

If there is any conservation moral to be noted in the passing of the passenger pigeon, perhaps it is mainly one connected to the price of progress. Like the bison and many other things wild and free, we have traded the passenger pigeon for modern transportation, improved agriculture, twentieth century buildings and a far greater human population. But there are still some people who grieve because they are not sure in their hearts that we have gained by the exchange.

There will always be passenger pigeons in paintings, books and in museums. But these are symbols and images, dead to all hardships and delights. "Book-pigeons cannot dive out of a cloud to make the deer run for cover, nor clap their wings in thunderous applause of mast-laden woods. They know no urge of seasons; they feel no kiss of sun, no lash of wind and weather. They live forever by not living at all."

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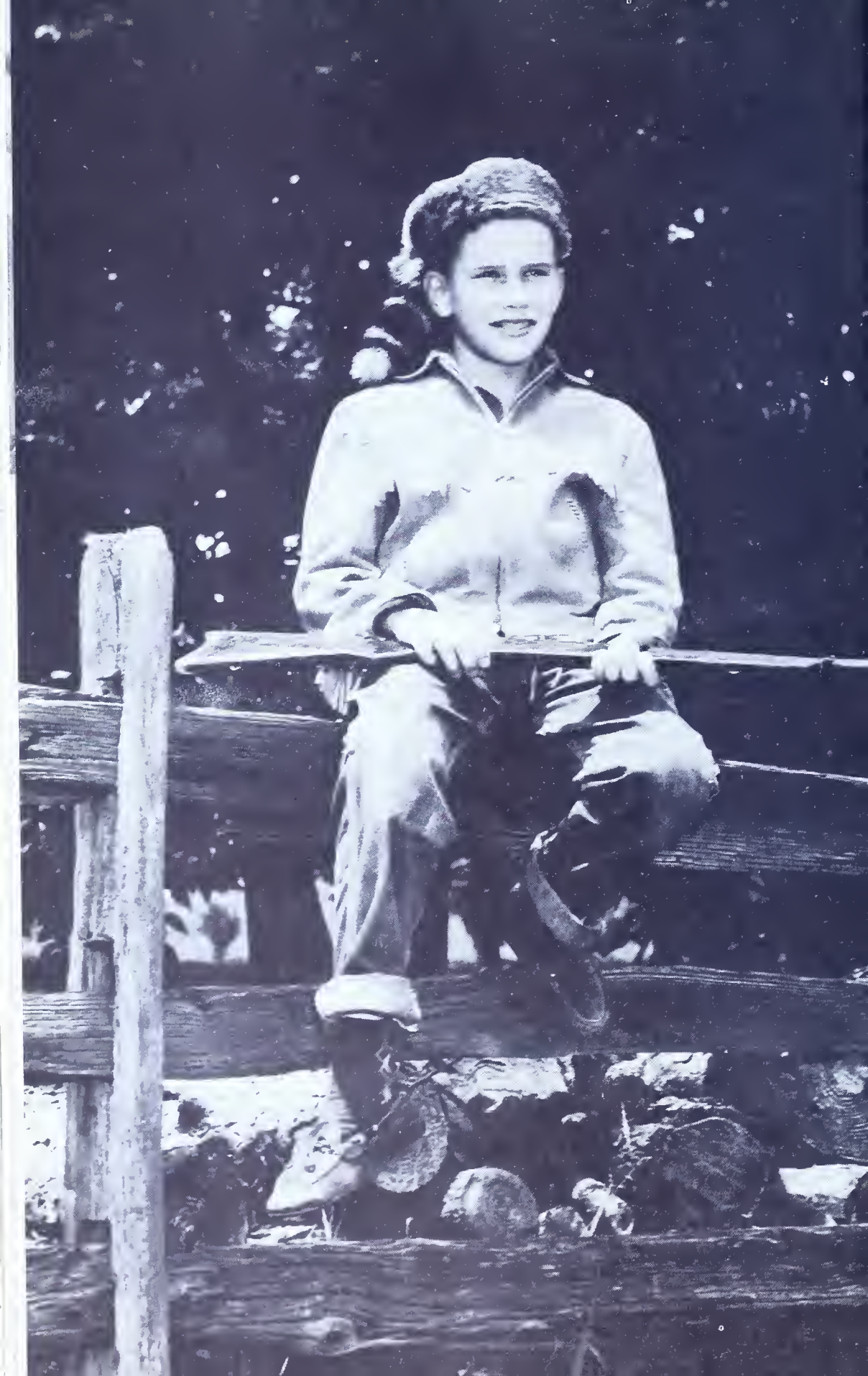
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EDITORIAL . . .

Son of the Wild Frontier

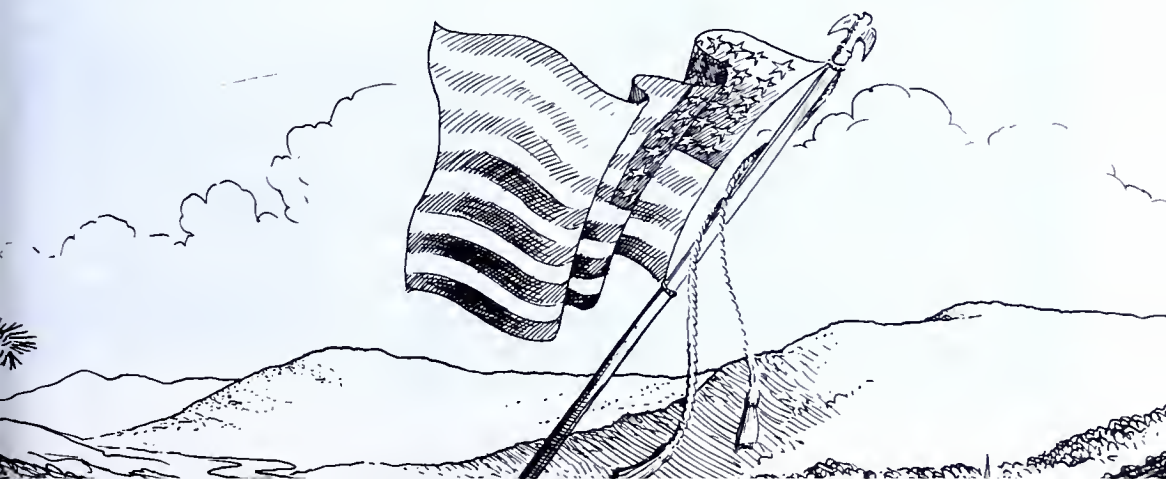
FOR a generation that has followed trends in hero worship all the way from Tom Mix to Tarzan, from the Green Hornet to Superman, it is rather gratifying to see at long last a better example for kids to follow.

Although the boy "born on a mountain-top in Tennessee" may be a bit over-glamorized—and certainly over-commercialized, he is nonetheless a more realistic and worthy idol than some of his comic strip predecessors. For Davey Crockett was surely a patriotic individual, a better than average woodsman, and a classic example of the men who have made America great. And whether or not he literally patched up the crack in the Liberty Bell is beside the point.

Is it not enough that this Independence Day millions of young Americans will once again "remember the Alamo"! Is it not more fitting that instead of idolizing and imitating some fictitious character with dubious characteristics, modern day Davey Crocketts will be singing praises to courage, honesty and patriotism?

The story of Davey Crockett means more than that to sportsmen, however. It is a story of great forests, rich soils, abundant wildlife and clean waters. As a boy of eight, young Crockett was given a long rifle with which he hunted a host of wildlife—bear, deer, buffalo, panthers, passenger pigeons and all the rest. Perhaps Davey Crockett could not be called a sportsman in the modern sense of the word. But because of his outdoor training, because of his love for America's God-given natural resources, he and many more "sons of the wild frontier" forged a great nation in their day. The sons of 1955's "wild frontiers," if they are to be as successful, need much of the same virtues. Like Davey Crockett, we need to "be always sure you're right, then go ahead."

So let young America sing about Davey Crockett this July Fourth—let today's youngsters worship a real outdoorsman and pioneer. And most of all, let the example he set for freedom, honesty and hard work be a guide on the world-wide frontiers still to be conquered.

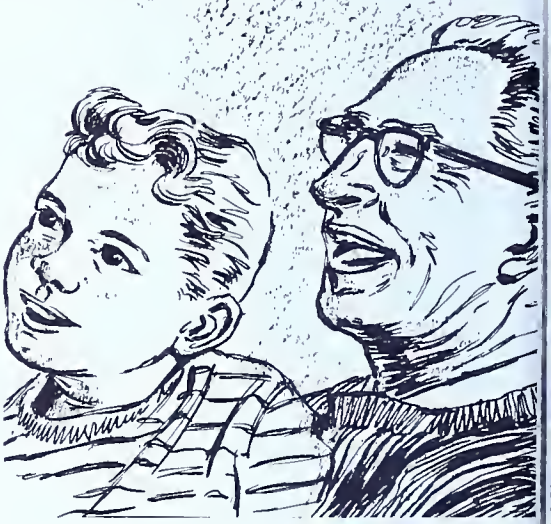




Tent and Tarp

By Bill Walsh

Illustrated by
Madeline Marabella



GRANDFATHER scrooched his wicker rocker closer to the fireplace and emptied the bowl of his pipe into the fire. One hot ash bounced off the hearth and onto the rug. Looking over his shoulder to see if grandma had noticed, he deftly reached out with his left foot and smothered it. But, she was in the kitchen washing the dishes that I was to dry later on. After grandfather filled another pipe and got it going, he stabbed the air with it in my general direction and said "Boy."

He might have meant any boy except that there was a certain tone in the way he said it that made it sound as personal as if he'd spoken my name.

"Boy," he repeated, "The most fun in the woods is the woods themselves."

He worked at the pipe for a minute or two to let that important general fundamental truth sink into my understanding, then went on:

"What I mean to say is that lots of folks go into the woods with the sole intention of grabbin' off a piece of game of some kind and gettin' out as quick as possible and back into town—the only place where they feel at home—to show it off."

Again he puffed the pipe, a short-shanked native corn cob, while I pondered the import of his words.

"The only folks that really enjoy the woods are the ones who can go in with their livin' on their backs and stay for awhile without getting wet or scared or lost or hungry. Don't make any difference whether they're hunting for anythin' or not—just so's they accept the woods as a place in which they can live as easily as anywhere else—if they know how to do it."

Grandma came into the room with two bowlfuls of Dutch apple pie smothered in cream, a spoon sticking out of each one. Grandfather put his pipe on the mantel and I sat cross-legged on the hearth while we did what any two men would do to grandma's best pie.

Grandma sniffed a bit at the odor of burnt rug in the air but only said, "I'll call you, Bill, when the dishes are ready."

The pie didn't break grandfather's train of thought and after the interruption was tucked safely away beneath his belt he continued:

"So, we're going to teach you how to go camping. Some of the best folks on earth get their biggest enjoyment out of camping. All you need are a few tools, a tent, and a tarp. And in emergencies you can get along with less than that. But I'll show you more about that tomorrow. Half of today's hunters would be scared stiff if they had to spend a night in the woods—though what strange animals are there that aren't also there in the daytime I've never been able to figger out. Anyway, no young 'un is goin' to grow up around here feelin' like that."

All through the job of drying the dishes I looked forward to the camping trip and it was a long while—or at least it seemed that way to me—before I went to sleep that night. Camping was a big adventure then. And I must truthfully say it's a big adventure today, too; one hobby that continues to pay big dividends in relaxation and outdoor fun.

A big hemlock shaded the window of my bedroom when I stayed at grandfather's house. It was also the home of a fat and sassy red squirrel that made enough noise for a critter ten times its size and which had become accustomed to visiting my window sill to pick up bread crusts I would leave for it. Because of its voice and its color I called it Rusty, as have probably hundreds of other kids so named hundreds of other red squirrels.

Rusty awakened me the following morning with a barrage of chatter that seemed to scold me for not having parceled out the bread crust, usually a nightly chore so that it was there when Rusty looked for it in the morning. The anticipation of going camping had upset my routine and I had forgotten it. But my young boy's heart was so filled with pleasure about a new and wonderful experience to be lived for the first time that it was no bother to run downstairs and come back with a whole slice of bread for Rusty. Childhood is filled with so many mornings when the day ahead seems like a magic world of adventure—when we are slated to do something for the first time. But as we grow older and more experienced we don't face so many days like that. Surely it is a golden thing that we have lost.





After a hearty breakfast grandfather and I began to gather the things that were to make up our camp packs, a big one for him and a small one for me.

"The first thing to worry about when making up a camp list is to decide what you need," grandfather grinned, "then make a list of those things and when you're done decide on which half of the things you've listed you can really do without. Campin' is for fun, not to prove how much weight you can carry around. The more weight in your head, the less on your back."

Grandfather's camp pack was quite a bit different from the one I carry into the woods today on what we like to call "wilderness" camping trips. We laid a ground cloth out in the yard under the apple tree and put our "necessities" into it in careful order. We took only two cooking utensils—a big black iron frying pan that must have weighed at least five pounds and a copper teakettle that would hold about a quart and a half of water. Today I have a complete set of cooking utensils fashioned from a magnesium alloy that weighs less than one pound. How grandfather would have enjoyed using them if they had been available in his day.

Two pounds of bacon wrapped in cheesecloth, a bag of sugar, some tea, a loaf of dark bread, salt, pepper, 2 tin plates, 2 tin cups, a jar of grandma's peach jelly, and a little flour, and some of grandma's pancake mix with a trace of buckwheat flour, made up our list of stores.

Grandfather carried this heavy pack. My pack consisted of a full change of clothes for each of us and a light pup tent.

Our destination, when we said good-bye to Grandma, was a big hemlock stand about three miles from grandfather's farm. We planned to sleep out two nights. Believe me, the way was so strange and beautiful and mysterious to my boy's eyes that I hardly felt the weight of my pack along the way.

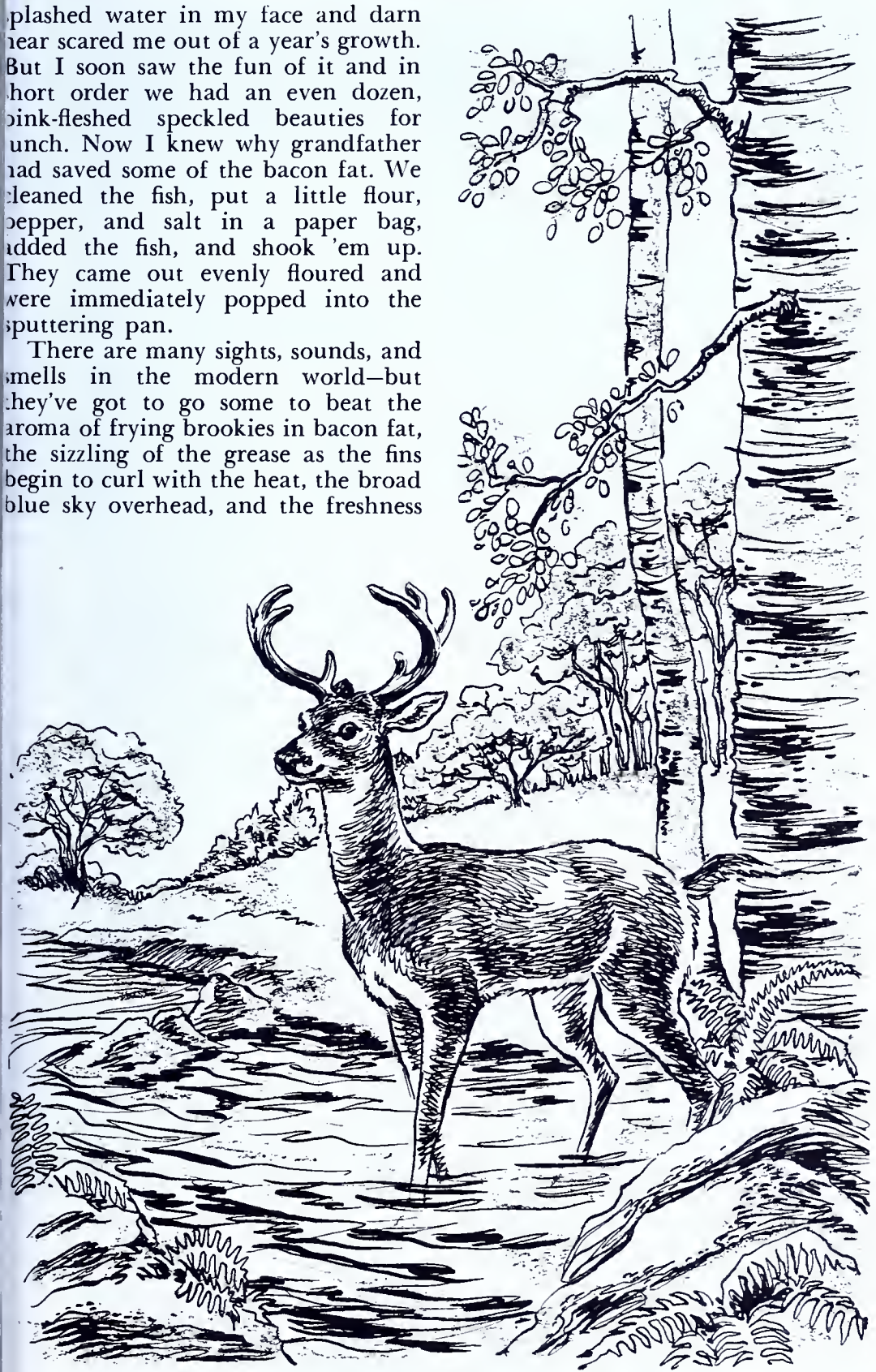
And when we entered the grove of giant evergreens, their shade was so refreshing after the heat of the sun in which we had travelled that it seemed the most logical place in the world to set up our tent and get our camp organized. A brook filled to its brim with water of pristine purity laughed its way among the rocks a few yards distant, so drinking and cooking water was no problem.

It was practically lunch time so we picked some blackberries. Then grandfather cooked some bacon and we had bacon sandwiches, using some of the bacon fat in the frying pan to soak an extra slice of the dark bread. We then relaxed the rest of the afternoon and listened to the sounds of wildlife around us, especially the noisy squirrels. As the rays of the sun slanted in from the west, we went down to investigate the mysteries of the brook and to drink from its cool depths.

It was the tail end of the trout season in those days and grasshoppers were numerous at the edge of the woods. It didn't take grandfather long to show me how to lay on my belly and drop a hooked grasshopper at the edge of the bank. The first native brookie exploded up out of the depths and hooked himself so quickly he

splashed water in my face and darn near scared me out of a year's growth. But I soon saw the fun of it and in short order we had an even dozen, pink-fleshed speckled beauties for lunch. Now I knew why grandfather had saved some of the bacon fat. We cleaned the fish, put a little flour, pepper, and salt in a paper bag, added the fish, and shook 'em up. They came out evenly floured and were immediately popped into the sputtering pan.

There are many sights, sounds, and smells in the modern world—but they've got to go some to beat the aroma of frying brookies in bacon fat, the sizzling of the grease as the fins begin to curl with the heat, the broad blue sky overhead, and the freshness



of the good clean woods all around us, uncluttered by beer cans, sandwich papers, and other assorted refuse found almost everywhere today.

Every man yearns for a bit of wilderness. And while it's getting more difficult to find, a camping trip is the quickest way to begin the search.

Well, there's no use going into the culinary department in detail—but rest assured we didn't go hungry. Blackberries were in season and we had them for breakfast each morning and for dessert at each meal. And as I picked, I guess I had 'em all day long.

Once when we approached a good berrying spot we surprised a family of grouse and it was there that I heard for the first time the plaintive winnowing call of the mother giving instructions to the young birds and giving us heck at the same time. Once she actually hissed and came at us with her wings outspread.

Another time, while fishing, I looked downstream to see a huge buck deer taking his morning drink in a quiet pool below. The slight current of air moved my scent down to him and he quickly raised his head as though it stung his nostrils.

"Our smell must be somethin' awful to a deer," I remember telling myself.

He stood quietly for only a moment, crouched almost imperceptibly, then sprang into the direction from which he'd come, almost completely turning in his tracks without any apparent sign of physical effort. I lay still for a long time but he didn't return, nor did any does show up. I went back to fishing.

And at the end of the first day I discovered how delicious slumber is to the woodland wayfarer.

Grandfather went to sleep with his head on his arm for a pillow. And I rested my own head in the crook of his elbow. He slept before I did and while I was still awake I heard the patter of tiny feet on the tent. Grandfather stirred and sensed that I was still awake. He heard the sound.

"It's only a mouse," he said and gave the wall of the tent a resounding whack with the back of his hand. The mouse must have landed several feet away and returned no more.

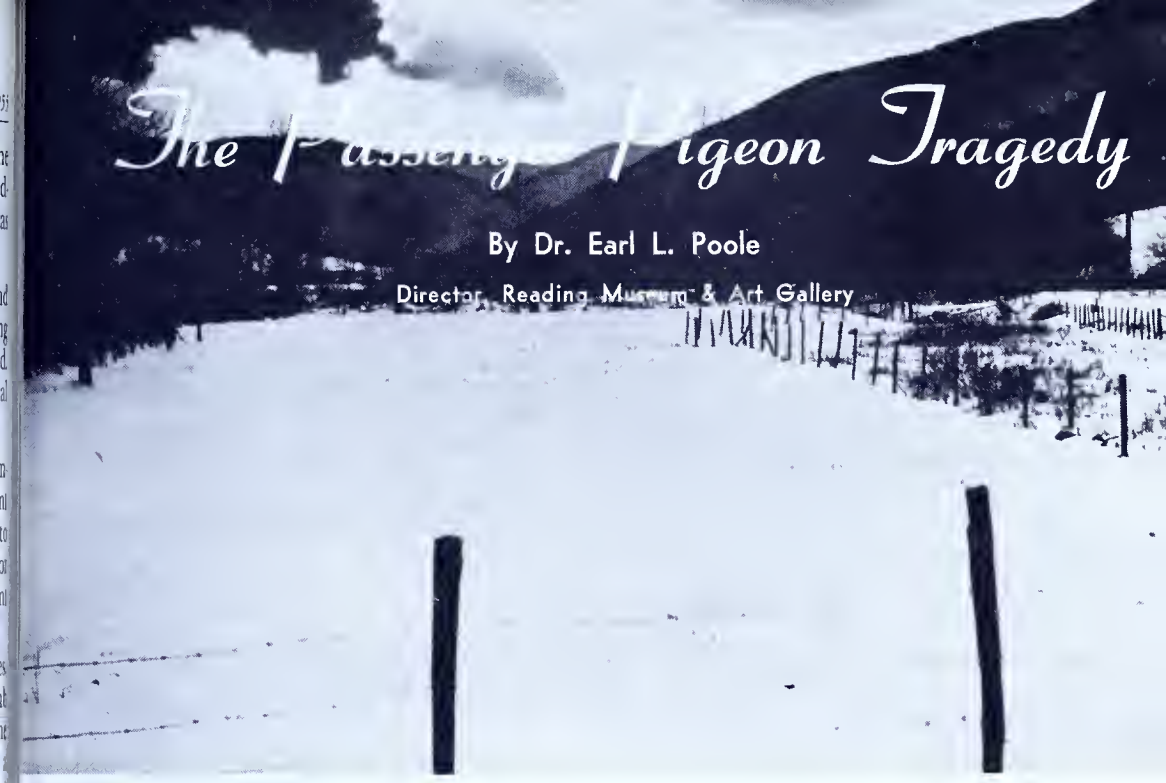
Next thing I knew the early morning sun had already made the tent uncomfortably warm. I awakened to hear grandfather breaking wood for the breakfast fire and in a moment had joined him.

"Wash the sleep out of those eyes, wash your hands good, and comb your hair," he ordered as soon as he spied me. "No excuse to look like a bum because you're in the woods and the womenfolk can't see you."

I complied—and have found to this day that the most comfortable camper is a clean one with hair combed and the beard removed—even if the shaving process takes place in cold water.

Well, I don't want to bore the reader with every minute detail of our trip together, except that when grandfather and I got home there was a bond between us that wasn't there before. And camping is still one of my most rewarding experiences—one that I share now with wife and children and on rare occasions with hunting and fishing companions.

In addition there is a feeling of freedom that is difficult to cage in a phrase or a sentence. Perhaps it can be described by saying that camping takes one nearer to his origins and closer to a feeling of adequacy that his shadowy forebears traded for the security of the first walls they built around themselves. And perhaps we can say that without the eaves and a stout roof between us and the sky we feel just a bit nearer whatever it is out there in the star-filled blackness of the night that breathed us into living . . . and thinking . . . and wondering.



The Passenger Pigeon Tragedy

By Dr. Earl L. Poole

Director, Reading Museum & Art Gallery

ONE of the classical examples of the white man's heedless waste of a great natural resource was the wanton slaughter of the Passenger Pigeon that reduced that splendid and spectacular bird from estimated billions to complete extirpation as a wild species by the first decade of this century.

From the earliest available records, explorers and settlers throughout Eastern North American never ceased to wonder at the prodigious numbers of wild pigeons that they encountered. From Canada to Florida, and as far west as they had penetrated, many expressed their amazement at the incredible multitudes of these birds, that sometimes darkened the skies for three days or more at a time, as they passed over a single area.

In 1759, Peter Kalm, the Swedish botanist, wrote of the Passenger Pigeons that visited Pennsylvania and the southern English provinces during certain years "in such indescribable multitudes as to appal the people."

In 1803, William Bartram, founder of the famed Bartram's Garden, now in Philadelphia, made frequent references in his journal between 1803 and 1807 to unusual flights of "Wild Pidgeons" that passed over his home in the fall, late winter, and early spring. Alexander Wilson, the father of American Ornithology and a close friend of Bartram's, in writing at the same period stated that "Every spring as well as fall more or less of them are seen in the neighborhood of Philadelphia, but it is only once in several years that they appear in such formidable bodies, and this commonly when the snows are heavy to the north, and the winters here more than usually mild, and acorns, etc., abundant."

But the first sinister suggestion of impending extermination had already come from the New England States, when John Josselyn, in 1672, reported that he had seen flocks of pigeons in the spring and fall that "had neither beginning nor ending, length or breadth, and so thick that (he) could see no sun." He added, "But of late they are much diminished, the English taking them with nets." This was a half-century after the first settlement at Plymouth.

In 1759, Peter Kalm wrote that the old men told him there were many more pigeons in "New Sweden" in their youth than there were while he was there. They expressed the opinion then that they had either been killed off or scared away.

And so for the next two centuries the process of indiscriminate slaughter went on, the birds being killed in increasing numbers during their migrations through every state in the Union and in Canada, and in their nesting places as well.

The present writer arrived on the scene too late to see a Passenger Pigeon, but he has talked with several old timers who knew them well. All have gone to their merited reward, excepting my good friend, Dr. Herbert Beck of Lancaster, who still treasures memories of his one and only experience with these birds, when, as a youth, in August 1888, he saw a small flock in York County. Another, the artist Christopher Shearer of Reading, painted his impression of one of the last great flocks of pigeons that visited Berks County up to 1881. His canvas, "The Flight of the Passenger Pigeons," is now in the possession of Colonel Henry Shoemaker, and is an excellent example of that oft repeated Chinese adage, "One picture is worth ten thousand words."

The picture was actually painted on the western slope of Mt. Neversink near Reading, and shows the horde of pigeons coming in to roost as I have heard the old-timers describe them. Gunners would take up positions on the side of the mountain and shoot the incoming pigeons until their guns were hot. A rock in the middle of the Schuylkill near this point was frequented by the pigeons to bathe and drink, and was known for many years as "Pigeon Rock"; but today even the name is forgotten. This picture of Shearer's visualizes the description of a great flight of pigeons witnessed in Kentucky, and reported by Alexander Wilson a hundred and forty-five years ago. Probably nothing ever written about the Passenger Pigeon can surpass his description of this flight.

"In descending the Ohio by myself in February, I often rested my oars to contemplate their aerial maneuvers. A column, eight or ten miles in length, would appear from Kentucky, high in the air, steering over to Indiana. The leaders would sometimes gradually vary their course, until it formed a large band of more than a mile in diameter, those behind tracing the exact course of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight; so that the whole, with its glittering undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river.

"When the bend became very great, the birds, as if sensible of the unnecessarily circuit course they were taking, suddenly changed their direction, so that what was a column before became an immense front, straightening all its indentures until it swept the heavens in one vast and infinitely extended line. Other lesser bodies united with each other as they happened to approach, with such ease and elegance of evolutions, forming new figures, and varying them as they united or separated, that I was never tired of contemplating them. Sometimes a hawk would make a sweep, on a particular part of the column, when almost as quick as lightning, that part shot downwards out of the common track; but soon rising again, continued advancing at the same rate as before. This deflection was continued by those behind, who on arriving at this point dived down almost perpendicularly to a great depth, and rising, followed the exact path of those before them."

Most of Wilson's observations as to the appearance of one of these great flights are vividly portrayed in

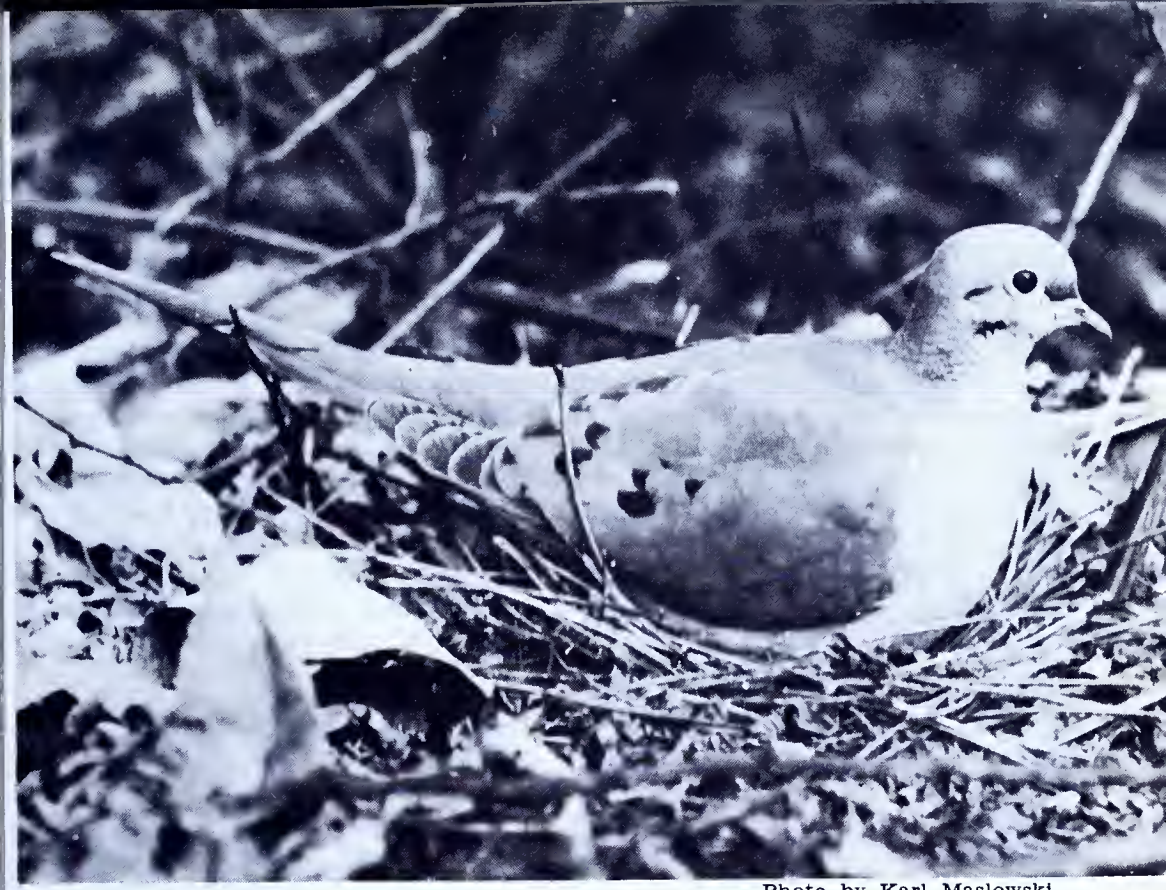


Photo by Karl Maslowski

MOURNING DOVE, a popular and abundant migratory game bird of today, is sometimes mistaken for the extinct passenger pigeon. But unlike the days of the "blue meteor," modern game management on state and federal levels will always insure the future of this species.

the previously mentioned Shearer painting, and he (Shearer) added another observation, that when a portion of the flock became too congested for free flying all the birds in that particular part of the flock would dive straight down, often several hundred feet, and then just as suddenly level off into another "layer" of birds that continued to fly at that lower level.

In Pennsylvania the Passenger Pigeon was said to have nested most abundantly and most recently in the Beech Woods of McKean and Potter Counties, with perhaps minor nesting places in Luzerne, Sullivan and Wyoming Counties. Such nestings were by no means regular, since the movements of the great pigeon flocks were largely influenced by their search for food, and an unusually large crop of beech mast in the previous year was the most potent inducement for the pigeons to nest in any given locality.

There are records of several large nestings of the pigeons in Potter and McKean Counties in 1830 and 1870, and they were probably preparing to nest on a large scale in Potter County in 1886, when thirty or forty men and boys from the settlement along Pine Creek went into the roosting the second night after the pigeons had settled and "shot up" the roost as long as a bird remained. In the night the remaining birds left Pennsylvania and never since returned to this State to nest.

One of the old pigeon trappers, C. W. Dickinson, described the great nestings of 1870 in McKean and Potter Counties as being forty miles long and from one half mile to two miles wide, running through an unbroken forest.

The nesting commenced in late March or early April, one or two eggs being laid in the very crude nest. These nests varied in height, from six to sixty-five feet above the ground, and there are recorded instances of a hundred or more nests being found

in one tree. Many times the weight of many nests and roosting birds broke off branches or bent the younger trees to such an extent that many nests and eggs were dashed to the ground.

The early naturalists who visited these nesting colonies wrote of the overpowering odor that was generated by the excrement that covered ground and trees everywhere like snow, together with the broken eggs and the young that had perished through falling out of the nest. During favorable years we are told that there were three or four such nestings.

As with their domestic relatives, the squabs were fed with semi-liquid predigested food known as "pigeon's milk," and became excessively fat and delicious. Consequently, they were considered great delicacies, and, since they and the adults were most easily obtained at this period, it was then that they were in greatest demand. Gunners invaded the rookeries with guns to shoot and poles to poke the squabs out of the nest. In some cases, boys were taken along to climb to the higher nests, and the slaughter was often terrific, as long as the nesting continued. The old birds alternated at the nest and flew out over the surrounding country each day for food for whatever beech nuts, acorns, grain, or fruits and berries that might be available and were subjected to a barrage of guns on each journey. Those that flew low were struck by poles and oars wielded from hilltops.

After the Pigeon was extirpated from the area to the east of the Alleghenies, it continued to exist in numbers in the Mississippi Valley for some years. But the persecution became more thoroughly organized, and, with the advent of the railroads and the telegraph, teams of pot-hunters followed the birds on their migrations from Texas and Oklahoma to Lake Winnipeg, using every conceivable weapon, guns, nets, and even fires, to drive the young from their nests. In the more inaccessible places, where the birds could not be readily marketed, they were salted, smoked or pickled, the squabs were roasted to try out the oil, or the hogs were driven into the areas of the slaughtered, to fatten on those that could not be used. Many were taken alive and shipped to the larger population centers to be used in "pigeon shoots."

Baiting and netting were among the common practices, while decoys and "stool pigeons," set up on poles with their eyes sewed shut so that they would flutter when strings were pulled, were considered among the "sporting" ways to attract passing flocks.

The number of pigeons killed by these professional netters during the 1870's reached astronomical figures, according to their reports. We read of 11,000,000 birds being shipped in three years from one point in Michigan, 15,840,000 in two years from another, and 14,850,000 from still another. A few years later they all wondered where the Passenger Pigeon had gone!

The last Passenger Pigeon, "Martha," died in the Cincinnati Zoo on August 29, 1914, after apparently having lived her entire life of twenty-nine years in confinement. She was evidently the last of the offspring of three pairs that were purchased by that Zoo in 1876. After her mate died some four years before, a prize of $1,000 was offered for anyone who would find another bird to take its place; but none was produced.

What may have been the last recorded wild Passenger Pigeon was received by a game dealer with a shipment of ducks taken at Black River, Missouri, in 1906. A former Pennsylvania pigeon hunter mentions having seen a lone bird in that year. Unverified reports and rumors of small flocks or single birds persisted for some years after, but rewards offered for an undisturbed nest with eggs were never claimed. Some apparently reliable observations of single birds were made as late as 1911, but it is

enerally considered that most of the ports of flocks seen since 1900 or ereabouts were probably misidentiations of Mourning Doves or Bandiled Pigeons.

Several novel theories have been dvanced to account for the complete xtirpation of this, probably one of ie most spectacular of American rds. Some writers claimed that ey were blown to sea in a hurricane. hen there were reports of "many ousands" found dead in the Gulf Mexico, and one game dealer who ad probably handled many thouands of pigeons in his business career stated blandly that they had flown to Australia! Anyone who is interested in following up the sordid story of the relentless butchery that followed the last remaining flocks throughout the entire year, with nets, guns and every conceivable killing device, even to pincers to eliminate the need for biting through the skulls to kill the squabs, is referred to such extensive



ALD EAGLE, our national emblem since 82, is a striking example of modern wildfe on the "danger" list. March of civilizaon in recent years has wiped out both rds and habitat, reducing eagle numbers a critical point.

accounts as those in W. M. Mershon's "The Passenger Pigeon," John C. French's "The Passenger Pigeon in Pennsylvania," and E. H. Forbush's article on that bird in his "Birds of Massachusetts and other New England States," where the whole sordid story of the brutal and senseless extermination of one of the most beautiful and interesting of our American birds has been brought together—all that remains of the Passenger Pigeon for this and future generations, except a few specimens in our museums.

Gone, too, are the Carolina Paroquet, the Great Auk, the Labrador Duck, the Heath Hen, the Eskimo Curlew, while several other native species are threatened in the same way. Game or not, the Whooping Crane, Trumpeter Swan, Ivory-billed Woodpecker, the California Condor and several others are hovering close to the danger line.

Even our National emblem, the Bald Eagle is failing to hold its own, and the day may not be far distant when this characteristically American bird will follow the Passenger Pigeon to oblivion, much to our everlasting shame.

THE BETTER THINGS

Ray Trullinger, outdoor editor of the "New York World Telegraph & Sun," is a thoroughgoing sportsman who has done about all there is to do on this continent in the way of fishing, hunting and shooting. Like any sportsmen he has catalogued in his memory some of the "better things" of the outdoors. Here's how he rates those finned, furred, and feathered prizes, in the field and in the scullery:

Sportiest upland game bird to shoot and by far the most delicious to eat: the ruffed grouse.

Best eating trout: the sea-run cutthroat, with the eastern brookie a close second.

Best trout to catch, assuming you like fast action and a jumping fish: the rainbow.

Easiest upland game bird to hit and the poorest eating: the pheasant.

Toughest animal to hunt and by far the best to eat: mountain sheep.

Easiest big game animal to hunt and kill: the moose.

Smartest of the so-called big game animals: the whitetail deer. When you down a big buck, you're either pretty smart or loaded with horseshoes.

Most exciting duck to hunt: the black duck. Best duck to eat: A Currytuck Sound canvasback. Most difficult duck to hit: a downwind greenwing teal or any diving duck travelling with the wind at maximum 12-gauge range.

Most pleasant sound in the outdoors: a pair of lovesick loons or a moonstruck coyote. The melodious honking of geese far overhead is easy on the ears, too. Also, "Come and get it!"

Best smells: Deer liver and onions. Burning birch bark. Coffee boiling.

Wildlife Society Announces Annual Awards

Topping the 1954 awards of The Wildlife Society was the conferral of the coveted Aldo Leopold Memorial Award on Dr. Clarence Cottam, dean of the colloge of biological and agricultural sciences, Brigham Young University, according to the Wildlife Management Institute. Dr. Cottam is a former assistant chief of the U. S. Fish and Wildlife Service.

Allen W. Stokes, Ontario Department of Lands and Forests, received an award for the best publication in 1954 on a terrestrial species of wildlife, "Population Studies of the Ring-Necked Pheasants on Pelee Island, Ontario." A companion award for the best fisheries publication was given to Dr. W. E. Ricker, Pacific Biological Station, Nanaimo, British Columbia, for his paper "Stock and Recruitment," a mathematical treatment of fish and invertebrate populations.

Durward L. Allen, Purdue University, and former chief of research for the U. S. Fish and Wildlife Service, was given the Society's conservation education award for his widely acclaimed book, "Our Wildlife Legacy." A second award in this category was given to Ted Pettit, conservation director, Boy Scouts of America, New Brunswick, New Jersey, for his active leadership in developing conservation as the 1954 national good turn theme of that youth organization.

The Society also conferred honorary memberships on Dr. Arthur A. Allen, Cornell University, and on Dr. Paul L. Errington, Iowa State College.

Outdoor Reveries



Moonlit July

By John H. Day

STRANGE and wonderful and of awesome beauty are the midsummer nights when July has scoured the skyways and the late-rising moon pours lambent silver fire all across the hill country. The countryman walks abroad and finds himself in an enchanted world where all about is unreal and surely bewitched. If the little people of the fairy tales dance anywhere it must be on moonlit July nights when the dew has congealed into a soft green fire on all the leaves and the woodland paths are glowing caverns of luminous delight.

It all starts with the sunset. Through the fervent afternoon the sun winnows and sifts his gold, transmuting morning haze and birdsong and gorgeous wayside blossoms into the precious glow that begins to diffuse the west soon after noon. One of the prescriptions for this ailing world should be that men of decision, everywhere, be made to watch at least one sunset every week.

After the sun himself has gone, the fires of his crucible still burn high in the upper air. The thin vaporous gold condenses into glowing copper-red clouds which go down in gold dust and great molten nuggets into the distant western hills. Never a clear night falls but outdoorsmen can see this alchemy at work.

When the gold begins to pass, the countryman first notices the nighthawk, although the bird of evening may have been circling and shouting "paint, paint!" all the afternoon. See him before the light fades too much and the white bar crossing beneath each wing looks exactly like a hole. Some of the moths and butterflies have such transparencies in their pinions, but not the graceful nighthawk.

The countryman watches these long-winged birds coursing erratically above the sizzling tops of flat-roofed city buildings, urging plaintively that the run-down places be given a needed coat of "paint, paint!" Here they raise their young like any other city dweller, but the melancholy in their voices does not sound as if they are too happy about it. The nighthawk's cry, falling to dusky pasture glades from the high gold of the waning sunset, has no note of this city-

bound melancholy, but a soothing sleepiness that makes it a restful lullaby.

It's quite a sight to watch the nighthawk coasting down his aerial ski-run. He falls like a dark star from a height where he has been but a mote in the golden evening glow. His wings are half shut to his body as he dives head foremost in a perilous slant. Just as he must be shattered on his favorite roof top, he spreads those powerful wings wide, catching the air which sings through the primaries with a booming, deep-toned note, and zooms swiftly up again, still shouting for "paint" at the top of his lungs.

When the busy day is ended it is the wood thrush that sings taps. While smoke from the fires set by the dropping sun curls up in night mists from the dewy ground, the friendly woodland seems to crowd closer. Then out of its violet dusk rings the call of the wood thrush, a call full of gentle mystery, of faith and longing.

The countryman loses himself in the mood of the quiet July evening as the silver trumpet of the thrush cries taps. "Goodnight; good night; all's well; good night" is the reassuring theme of this rufous coated and speckle-breasted bugler. Listen well the next time you hear him and mark how these words fit his twilight strain.

WOOD THRUSH



July's most beautiful moonlight nights are those on which the moon is an hour or two late. Then the countryman watches the day merge into real darkness as the velvety shadows slip quietly up out of the earth. Little by little these shadows blot out familiar outlines until only the tallest of oaks looming dark against the lighter horizon has form. All else becomes a void.

One can look a long time at this complete darkness and not note the dancing lights in it. But once they are seen, the glint of the fireflies floating hither and thither is strangely vivid. They star the meadows as thickly as distant suns star the sky, making a milky way of the brookside and flashing comet-like along the dry upland. Their sparkle merely emphasizes the darkness.

The moon's herald is the whippoorwill. He won't sing during the pitch black hours. Starshine is enough for him, but he watches eagerly for signs of moonlight. His voice of shrill longing calls out of luminous loneliness after the moon begins to silver all things. Pick him out on his favorite stump or fence rail with a flashlight, and his blood-red eye will glow fearsomely. He'll sit outside a cabin and complain about the lighted window on the darkest night, but only the moon glow sets his chatterbox to shouting back among the timbered hills.

Moon glow casts a fragile and lovely spell across the hills. The glow of the sun drives the darkness before it. Moon glow fills the world with radiance and leaves the darkness which it permeates but does not destroy. Its light drowns out all melancholy moods in a deep sea of peace.

The bemused countryman watches the beams shine into the darkness under the gaunt old oaks, lighting long aisles between the naked boles

WHIP-POOR-WILL



below. A fat sphinx moth flies down the path, his gray body silvered by the moonlight and his short narrow wings beating so fast that they become but a gauzy nimbus about him. A barn owl, hunting lazily through the thickets, snores suddenly as he floats along close by.

The countryman steps out of the midnight woods to the shore of an unruffled farm pond. Here a man might well pause and take no further step lest he fall into the blue depths of space. The moon hangs like a great shield in a sky of soft sapphire, piled with luminous figures. The water's rim seems the verge of a vast, deep gulf that no weight might fathom, for there is no bottom. When the midsummer moon is past the full all things are as they seem.

By midnight the moon that had been so great with its rim touching the eastern hills has concentrated to a ball of white light near the zenith. Back in the woods the invisible little people are out in full force, rustling, flitting and calling. But the white light has gone now and under thick foliage of deciduous trees the real night has come again, dappled by flecks of filtered moonlight which only makes the shadows more obscure.

The countryman walks in the depths of a pine plantation where a stygian darkness smothers all sight. Here the path must be found by the feet alone, and it is singular what real understanding of terrain can thrill up from the earth through the sole of a boot. No matter how winding the path, it will keep a man within its borders if he'll give up his will to it.

Stepping out from the darkness of the pines the countryman walks into the full glare of midnight on the crest of the hill. A lonesome killdeer mourns across the sky. All things gleam in a white radiance which has rainbow margins where the dew hangs heaviest on nearby objects. Down below the whippoorwill continues his impatient roundelay, and a bat grits his tiny teeth as he flutters about in the strange light.

By day on such a hilltop the eye is photographic and records every detail. By night, especially under July's moonlight, the same story is told by the brush of an impressionist. In the full glare of the sun the myriad noises of the world mingle in a clear roar. It is a steady musical note. By night each noise is individual and leaves its impress on the mind. Who can forget the soothing chirp of crickets in the grass at his feet by night?

Three hours later the moon steps down from the zenith into cushions of velvety, violet black, low in the western sky. Its bright glow is lost in part and it is haloed with a yellow veil of its own fog distillation. The dawn comes early in July. It flushes the east with a bit of color, then fades again and the morning darkness grows thicker than ever.

Far in the east the stars that had been gleaming brighter as the moon descended pale again. The moonlit July night, in all its perfect beauty is over, for into the whippoorwill's call cuts the sudden joyous carol of a dawn-worshipping robin.

It Could Live in Pennsylvania

By Stanley P. Young
Senior Biologist
Fish and Wildlife Service, Department of the Interior

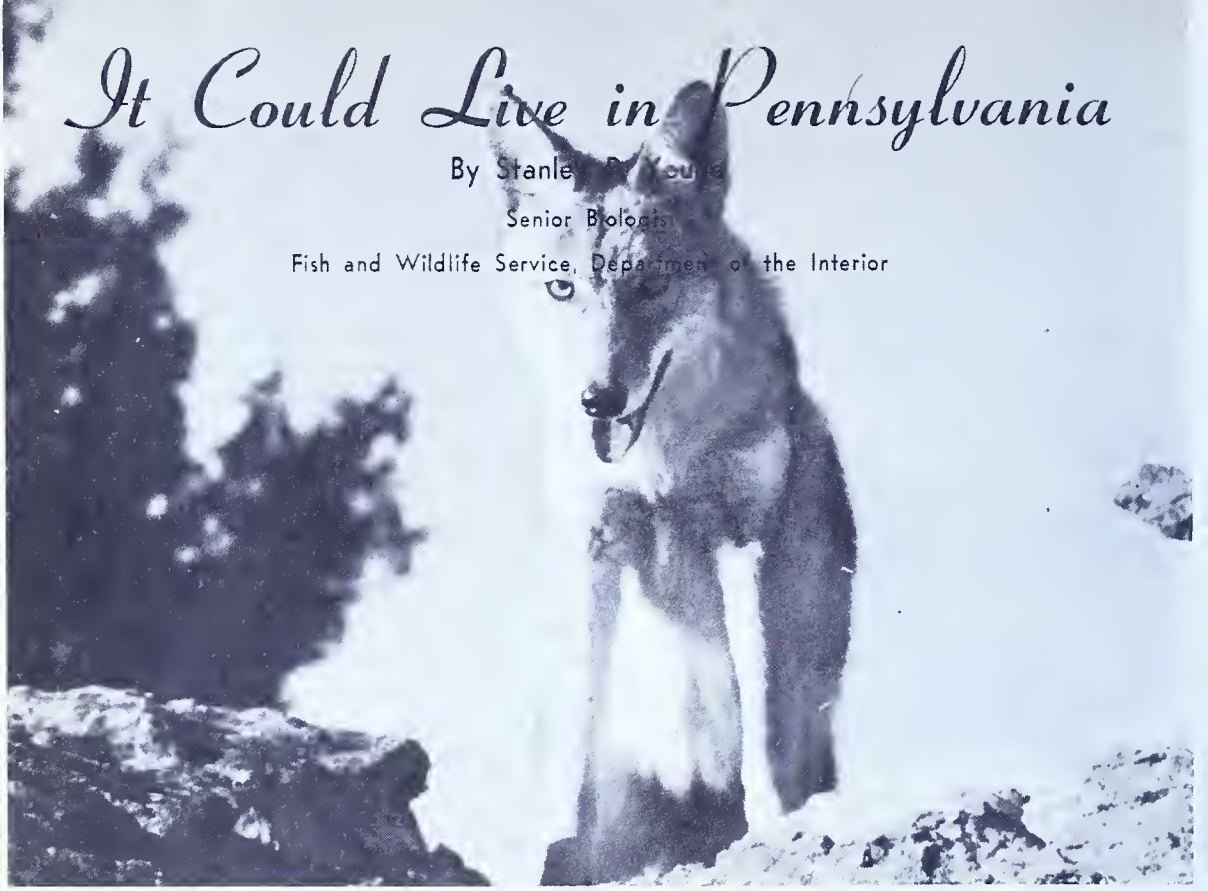


Photo by E. P. Haddon, Fish & Wildlife Service

THERE is no North American predator that can compare with the coyote in ability to hold its own in the face of the many hazards with which it must contend. The first great hazard which it faced on the North American continent took place nearly a century ago when, together with the wolf, it was subjected to the greatest poisoning episode probably ever instituted by the hand of man.

The start of this poisoning began in the late 1850's and continued for the following quarter of a century, and was conducted over much of the animal's prairie range from southern Saskatchewan, Canada, on the north, continuing southward to the Texas panhandle. This episode was contemporary with the so-called "tongue and tallow period" of the plains buffalo. Thousands of coyotes were poisoned for their pelts around the strychnine-poisoned carcasses of buffalo and antelope.

The professional wolf-poisoner came prominently into the picture at the time—a contemporary, in many respects, of the beaver trapper who, because of the diminution of the supply of beavers, turned to wolf and coyote poisoning for a livelihood which was gained from the sale of the pelts. In spite of the fact that thousands of coyotes were killed by poison during this interval, sufficient numbers of the species survived this onslaught so that by the close of the last century coyotes appeared to be in as great numbers as ever before.

What is there about this creature that so enables it to persist—enlarge its range, compete so successfully as to thwart nearly every method towards its control when at times it becomes inimical to man's interests? The answer to the foregoing has been well summed up by a range-man when he said, "The coyote has cast his lot with civilization. His fortress is a barbed wire fence (or, in fact, any kind of a fence surrounded by cover); he can sleep undiscovered in a bed walled by corn, wheat or grass; orchards and gardens are among his pantries. The localities in which

many of his plunders occur prove that much of his food is the fruit of man's labor.

"The animal is the most successful in contending against civilization. It has kept pace with settlement of the country, and with astonishing versatility has adapted itself to new conditions, spreading from the plains into mountainous country and constantly increasing the variety of its depredations."

It successfully faces every new condition that arises, and it is still found in all of its original range. Historically, it was almost divine among the Aztecs from whence came its first name, "Coyotl," in later times modified to coyote. The animal was used in totemism by Nezahual Coyotl, an Aztec King, for the animal was believed to act as a messenger of "Those Above" when designed to send wisdom or give warning to the "Earth People."

Probably best remembered of all coyote characteristics, at least by those becoming acquainted with it for the first time, are the several calls it makes. Our versatile wild dog of western prairies, deserts and mountains utters noises, particularly when made late at night or just near the break of day, which once heard are seldom forgotten. One westerner has aptly described these calls as "prolonged howls which the animal lets out and then runs after, biting them into small pieces." Some people call it the "Prairie Tenor." Through the years it has become associated in song with the outdoor life of the cowboy, and a symbol of our Great Plains, deserts and mountains. The West would never be the West should the tenor-like howl of this creature be forever stilled. Its persistency, however, will never permit that.

The coyote weighs anywhere between 18 to 30 pounds, but some,

ADULT COYOTE weighs between 18 and 30 pounds, leaves a track comparable to that of a collie dog. Once well established in a region, coyotes can spread like Russian Thistle.
Fish & Wildlife Service Photo by E. P. Haddon



MEET THE COYOTE

GRAY OR REDDISH GRAY
WITH RUSTY FEET, LEGS & EARS.
AVERAGE LENGTH, EXCLUDING TAIL – 35 INCHES
WEIGHT—20-45 LB.



HE IS SOMETIMES DIFFICULT TO DISTINGUISH FROM NEAR RELATIVES. CHARACTERISTIC FEATURES SHOWN BELOW:



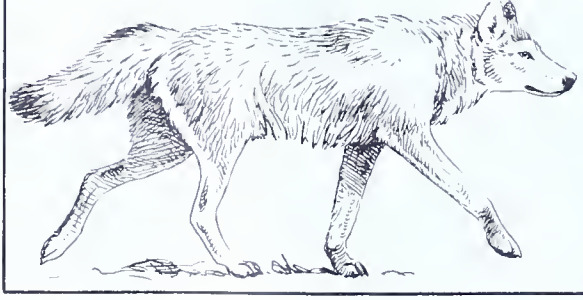
FOX

- PUPIL OF EYE ELIPTICAL
- TAIL CARRIED HIGH
- NOSE PAD NARROWER THAN COYOTE'S



COYOTE

- PUPILS ROUND LIKE DOG & WOLF.
- TAIL CARRIED LOW – BETWEEN LEGS WHEN RUNNING.
- EARS LARGER THAN WOLF'S.
- NOSE PAD NARROWER THAN THAT OF DOG OR WOLF.



WOLF

- TAIL CARRIED HIGH WHEN RUNNING.
- NOSE PAD WIDER THAN COYOTE'S
- EARS PROPORTIONATELY SMALLER THAN COYOTE'S.

though rare, have reached weights from 50 to 75 pounds; the track it makes is comparable to that of a collie dog. A hair coloration of light gray and red or fulvous is interspersed over parts of its body with black and white. It has a life span between 10 to 18 years. It is a good swimmer, has a bite comparable in proportion to the difference in the wolf's larger skull. The sex ratio in the wild holds close to 50:50, and there are females that may produce two litters a year.

The coyote is one of the main spreaders of rabies that was rampant among foxes in Pennsylvania several years ago. It is considered a source of danger with respect to the transmission of rabbit fever, often known as tularemia, and it is a host to practically every parasite that is common to the domestic dog. It is known to be a carrier of noxious weed seeds such as the detested cockleburr.

Nineteen geographic races of the animal are now recognized. That race known as the "Brush Wolf" occupies portions of central Illinois and northern Indiana and has been found in Pennsylvania. Since it made its first appearance in the Canadian Province of Ontario during the early winter of 1919, it has to date taken over nearly that entire province. While barriers often prevent an animal from gaining a foot-hold—not the coyote. There are few barriers that will stop it. Thus, one readily visualizes the coyote, when once well-established, can spread like the Russian Thistle.

Here is an animal that produces a litter of young that averages seven, with specific instances on record of individual litters as large as 15, 17, and 19. An example of the fecundity of coyotes was found in the San Luis Valley of southern Colorado, where 17 coyote whelps were taken from a single den together with the female mother. Examination of the uterine scars of this female showed clearly that all 17 belonged to the same litter. A second litter of 17 was taken from a coyote den in northwestern Colorado. On lambing grounds in one township, 6 miles south of Wolcott, Carbon County, Wyoming, 44 coyote pups and one adult were taken from five dens containing 6, 7, 8, 9, and 14 respectively. Here it might be noted that the dens of coyotes are not unlike those used by foxes, and the majority of the young are generally born between the middle of February and June first.

In addition, it has the ability to perpetuate itself even in direct conflict with man—by whom much of its habitat has been greatly modified—and the tenacity with which it can do this makes it our outstanding North American predatory mammal. It also seemingly possesses an anatomy that can withstand much in the way of shock and pain, as shown by its tendency to overcome severe physical disability to the point of complete recovery.

Coyotes have been trapped that had all four feet missing, the result of trapping injuries previously received. The stubbed feet in such instances were found to be all healed, nor did the animal appear to be greatly handicapped in moving around in its habitat. Often, too, but one foot or two feet will be found missing, becoming in these instances what the coyote trapper calls "peg-legs." In cases of this kind under observation, the coyote that is minus from one to four feet, or maintains broken elbows, the result of a rifle bullet, or is otherwise badly shot up, invariably turns out to be a worse depredator on domestic stock than the coyote which is in normal condition. This is the case, probably, because of the greater ease with which domestic stock can be killed by the coyote when laboring under such physical handicaps than is the case when it attempts to capture and kill wild prey such as deer and their young, rabbits, rodents, or other natural foods. Seemingly, as judged from field



Photo by Rex Gary

COYOTE PUPS may be as cute as the proverbial "tick's ear" but may not be a desirable addition to local fauna in many areas. Average litter numbers seven pups but cases of 19 young born to one female have been found.

experiences, very few, if any, of the smaller carnivores, such as the fox and badger, ever recover from trap injuries after escape. Seldom are any of these again captured that are minus one or more feet, or otherwise show previous injury. The supposition is that such injuries which are so remarkably withstood by the coyote, and often its cousin, the gray wolf, soon cause the death of the smaller carnivores following their escape.

It may be that the possession of such recuperative powers as shown by the coyote does account for its remarkable ability to extend its range; to hold its own as to numbers, geographically speaking; and to obtain a livelihood on mountain, in the valley, or in a desert habitat in spite of every human hand being turned against it.

Unknown in Alaska prior to the famous gold rush of 1898, latest wild-animal estimate figures in that territory show it ranging in numbers throughout the greater portion of Alaska. We find therefore, at the present time, a remarkable range for the coyote extending from near Point Barrow, Alaska, in the frozen North to tropical Costa Rica in Central America—a North and South range of approximately 7,200 miles. Coupled with the foregoing is its outstanding trait in the way of food habits by subsisting on a large variety of items, made up partially of carrion, insects, birds, domestic stock, rodents, reptiles, and at times full-grown deer and their young, as well as both wild and domestic fruits.

Since 1927 records show that the animal has been taken in the eastern United States from southern Michigan, New York, Maine, Ohio, Pennsylvania, New Jersey, Maryland, and also from the following southern states: Virginia, North Carolina, South Carolina, Tennessee, Georgia, Mississippi, Alabama, and Florida.

Some of these coyotes have no doubt come as young by the hand of man, who brought them from the West where they had been purchased as pets, and, after reaching the homes of their various owners, they finally

escaped from confinement to the wild. In one southern state they were inadvertently planted as foxes by sportsmen believing them to be the young of foxes (they are somewhat similar in looks when in puppy-hood) as a replenishment to the dwindling fox population for running to the hounds, a sport held in high popularity in some of our states.

There has occurred as a result of some of these introductions, the cross-breeding of the coyote with some kinds of domestic dogs, for the coyote readily mates with man's best friend. Thus the offspring of such a cross has brought a new word into the jargon of the outdoorsman, namely "coy-dog!" Reports coming to the Fish and Wildlife Service indicate this cross has established a foothold in certain areas of northern New York.

Often such a hybrid turns out to be, on maturity, a terrific depredator, hard to trap, elusive as a puma, and as tenacious as some of our worst garden weeds.

Such a cross, when obtained very young, has occasionally been known to become a good trailer of coyotes and bobcats. This was the case of a female hybrid of a coyote-fox hound cross owned by the late R. E. Bateman of Billings, Montana, long in the employ of the United States Fish and Wildlife Service.

The young of full-blooded coyotes, and those of hybrids, generally make but one-person pets, resenting intrusions from other than the one raising them. There have been exceptions to this characteristic however. In the case of a hybrid resulting from a cross between a female coyote and a white English bull-dog that was

BEST REMEMBERED of all coyote characteristics is the famous set of calls it makes. Some people call the animal the "Prairie Tenor"; its howl is a traditional part of the West.

Fish & Wildlife Service Photo by E. R. Kalmbach



bottle-fed at San Bernardino, California, though it was easily frightened, it readily made friends. It was very active and alert. It could bark like a dog, but it seldom did so.

Often the question arises are coyote hybrids fertile? They are, as in the case of the dog-wolf hybrids. Both hybrid coyotes and wolves have been bred successfully with domestic dogs through four generations.

Of interest regarding this condition coming from New York's Adirondack's region is that recorded in the Journal of Heredity for March-April, 1952, page 73—to wit: "To students of evolution, the emergence of this new type in a region that has heretofore been definitely outside the range of the parent species has elements of considerable interest. Will time and the selective forces acting on dog and coyote genomes evolve a new species peculiarly adapted to the wild mountain areas of the Northeastern States? Geneticists will watch for further news of the coy-dog with considerable interest."

Now, you may feel from all of the foregoing, that the coyote is portrayed as the Master Criminal amongst our North American carnivores. However, if such an opinion is gained, it is in part an injustice to this creature, for the animal has its place in the scheme of Nature. It does destroy many injurious rodents, its favorite food, but it is far from a controlling influence in keeping in check over-abundant rodent populations. Like the buzzard, it is a good scavenger on the range. Also, it furnishes certain fur requirements whenever Dame Fashion swings to long and coarse haired furs for use as trim on milady's garments.

It is strictly, as stated, a western animal. Where it has gotten out of hand and made its appearance in the eastern states since 1927, it has been found in localities that were never any part of its natural range. Wherever it is known to have put in an appearance in any of our eastern states that contain suitable habitat for it, it should be kept out by extreme diligence on the part of all concerned. No one knows the headaches attendant with coyote depredations than do the conservationists and stock interests of the West.

It should be held to its God-given habitat, and here controlled in numbers where man's interest so requires, whether in protection of wild life, domestic flocks of poultry, livestock, or the public health.

Western Intruder

By Harvey R. Frantz

IN December, 1953, a northern coyote *(Canis latrans thamnos)* was shot and killed as it loped over Pequest mountain near Buttzville, New Jersey. Buttzville is only a few miles inland from Belvidere on the Delaware River which is approximately half way between Easton and Stroudsburg.

After the animal was carried down to the village and displayed it became a center of controversy, being called everything from a timber wolf to a police dog. However Professor Albert E. Conway of Lafayette College and Jules Marron of the New Jersey Department of Conservation and Economic Development identified it as a northern coyote, sometimes called a brush wolf.

Not only were the local sportsmen interested in what the animal was but the Warren County Board of Freeholders (in Pennsylvania they would



GARDEN STATE SPECIMEN of coyote, or "brush wolf," was shot near Buttzville, New Jersey in 1953. It is being examined here by Professor Albert E. Conway, right, of Lafayette College and Luke Caldwell, of Buttzville.

be known as county commissioners) were also interested. A 125 year old resolution still on their books calls for a payment of $4 for a young wolf and $8 for an old wolf. In that the coyote killed is also called a brush wolf the Freeholders were not sure about the bounty so to be on the safe side they budgeted $8.23 in their contingent fund to cover it.

While the reported appearances of coyotes in New Jersey have been far and few between, Mr. Marron said he had only encountered four in the past eight years. New York has been cognizant of them since the middle thirties. They seem to favor the Adirondacks which is evidenced by the seven northern counties that are currently paying bounties on them ranging from $25 to $75. Marginal or abandoned farm land, semi-open country such as old burns, and evergreen forests and plantations seem to be their favorite habitat.

In the more remote sections of the Adirondacks the coyote has remained pure but on the fringes of habitation the coyote is known to mate with dogs resulting in a cross breed called

coydogs. These offspring retain the more dominant physical characteristics of the coyote along with the heavier weight of the dog. Because of their same general appearance and similar tracks it is almost impossible to say whether the animal seen skulking through the woods was a coyote, coydog, or just another homeless dog.

Coyotes have about the same diet as the red fox but naturally on a larger scale. They are especially fond of carrion. No doubt they occasionally attack and kill deer but the unrecovered deer killed during hunting season along with those that die from natural causes should provide considerable amount of carrion for them. Michigan is a good example of the coyote influence on the deer herd. From 1936-46 bounties were payed on more than 23,000 coyotes without checking their increase yet at the same time the deer herd was at an all time high.

The coyote, a western mammal, is also generally common in northern Wisconsin and northern Michigan, western Illinois along the Mississippi River, northern Indiana, southern and eastern Ontario and in extreme southern Quebec. In 1934 government trappers were engaged in Tennessee to combat their increase in that state. They were reported near Oldtown, Maine, in 1943. On the other hand Ohio reports only four being killed within the past 6 years. Two of these were killed in the northwestern agricultural portion of the state while the other two were killed in the forested southeastern portion of the state.

There has been no report of coyotes in Delaware but then that's understandable considering Delaware's peninsular location. A coyote would have to be part muskrat to reach there unless he came by the heavily populated land route. Of course this is not impossible as the one shot in New Jersey was only a little over 60 miles from the heart of New York City. Neighboring Maryland did report a "wolf" shot outside of Baltimore but on closer inspection, it turned out to be a police dog.

The northeastern coyote has the same general appearances as the so-called brush wolves of Arizona and the timber coyote of Wyoming. In some cases he has increased his average weight from 28-32 pounds to as much as 50 pounds for some adult individuals. They are similiar to a small police dog but with longer fur and a shorter, bushier tail. In color they are a grayish tawny with the darkest hairs extending down the back from the shoulders to the tip of the tail. Their cheeks, throat and chest, and belly are white. In the field the coyote could be mistaken for a timber wolf. However there has not been one authenticated report or record of a wolf in the eastern states for over a half century.

It's quite common to hear the coyote's yapping bark in the west but his eastern cousins' bark is seldom heard, probably because he wants to keep himself inconspicuous as possible on his new range. They have a wide area of activity and are known as drifters in the animal world. This might account for their being found in New Jersey and Ohio. Incidently this habit of continually being on the move makes their trapping very interesting and, at times, very frus trating as well.

The coyote probably arrived in the Middle Atlantic states by various ways and methods. Undoubtedly some arrived as pets of service men and tourists and were eventually released or escaped. Others, befitting their wandering nature, came overland in easy stages from the north through Canada or south of the Great Lakes into New York state. It is said coyote pups have been shipped to some southeastern states as young red foxes, to which they have a striking resemblance, and released by the fox hunters.

FIELD NOTES

Water-wings Wanted

CARBON COUNTY—In the early part of the month of April, a duck nest was observed containing a good supply of eggs. But, oddly enough, in among all these duck eggs were two pheasant eggs. On more than one occasion a female ringneck pheasant was seen to leave the nest. Mr. Clifford Schaffer of Weissport, took colored pictures of both the mallard hen and ringneck pheasant sitting side by side on the nest at one and the same time. Since that time, the pheasant has not returned to the nest since there was quite a bit of excitement around Weissport due to this odd happening and far too many persons viewed the proceedings. There was a grand total of 34 eggs laid, plus two pheasant eggs in the one nest, it no doubt was the work of two mallards since two such birds were seen together constantly in company of a mallard drake. There might be a bit of confusion if the two pheasant eggs hatch along with the others, especially if the ringneck chicks are expected to swim.—District Game Protector William E. Fulmer, Lehighton.



No Way to Die

GREENE COUNTY—During the month of April, I received a call from U. S. Steel Corporation plant guards at Robena Slope, near Greensboro, to remove a deer. On arrival, I saw the most sickening sight any game lover would want to see. Roving dogs had chased a deer across a sludge pond, only to get trapped in the mucky center of the pond. I could see by the surroundings that the deer tried desperately to paw its way onto the dried part of the sludge. The deer, exhausted, drowned in the muck. Dog tracks were seen at the edges of the dried sludge.—District Game Protector Alex J. Ziros, Carmichaels.

Barking Up the Wrong Tree?

INDIANA COUNTY—On a recent check of planted areas on Farm Game Project No. 38, accompanied by Farm Game Leader Bowman, we found the multiflora rose plantings on the Travis and Hyskell farms on Project No. 38 to have been very extensively "barked." Blackberry found in quantity on the same area was not touched by the rabbits.—District Game Protector A. J. Zaycosky, Indiana.

Game Lands Guard

LUZERNE COUNTY—A Canadian Wild Goose on State Game Lands No. 57, has made his home on one of the ponds and is there to greet everyone coming in to fish or to just look around. He comes up honking and makes a very close inspection but had not refused to let anyone enter the Game Lands as yet—District Game Protector John C. Behel, Wilkes-Barre.



Cottontail Counter-Attack

FAYETTE COUNTY — Deputy Game Protectors Tabol and Onesko were riding in their car down one of the back roads on April 29, when they noted a cottontail rabbit chasing three crows. The big birds were just flying out of reach of the rabbit as it rushed them. The deputies did not get too close to the spot, but did manage to fire at the crows, scaring them off. No doubt the rabbit was defending its nest of babies.—District Game Protector Clifford Ruth, Hibbs.

How Dry I Am

NORTHUMBERLAND COUNTY —On the 29th of April, I surprised a black duck hen with a brood of ten ducklings. She was on a dirt road about two miles northeast of Snydertown. She was not near any decent sized body of water. The only water close was a tiny hill stream. There is a swamp about two or three miles from there and the only thing I can figure is that she went back that far to build her nest. She would have quite a journey to herd those young ones to that swamp on foot.—District Game Protector Clyde E. Laubach, Elysburg.

Dogs Almost Get Deer Down

FOREST COUNTY—Last April I received a telephone call from Mr. Morgan, who works for the Forest Service, that two dogs had a deer in Millstone Creek. He stated that one dog was right on the deer's back biting it while the other dog was swimming out to the deer. He chased the dogs off but said they only went a short distance. Morgan felt sure they would be back. With Deputies Regina and Cassatt I went out to the scene and found both dogs back in action. I quickly ended this fracas. Neither dogs wore collars and they looked like they were living right out in the wild. —District Game Protector George W. Miller, Marienville.

Watch Out for Those Wild Ones

FULTON COUNTY—During the early part of April, I was called upon to drive away three wild tom turkeys from a domestic flock. I was surprised to note the effectiveness with which they had cleaned up the three tame toms, and wooed away their harem of hens. It was necessary for me to enlist the assistance of Officer Troutman and three members of the Food and Cover Corps to drive the invaders back to their range. On several occasions they either outflanked us or flew back over us to rejoin the hens.—District Game Protector Carl Jarrett, McConnellsburg.



Spotlight on Crime

SUSQUEHANNA COUNTY—There are all types of Game Law violations and many degrees of seriousness, but one of the very worst is the shooting of deer at night with the aid of a spotlight. During the latter part of April, one of the more disgusting examples came to light when a friendly farmer reported sighting a deer carcass from the road. Investigation revealed a doe deer was shot through the head from an automobile on the road, dragged into the underbrush and hind quarters removed. The doe was carrying fully developed twin fawns which had tumbled out and lay fully exposed upon the ground.—District Game Protector Donald G. Day, Susquehanna.

Duck Program Produces

YORK COUNTY—The duck stocking program has proven quite successful in this district. No ducks were known to nest at the Hanover Water Company Dam until after this Commission had stocked the area. Last April a mallard hen was seen on the dam with 15 young, and several others were nesting.—District Game Protector Earl E. Geesaman, York.

What's New With Woodpeckers

ERIE COUNTY—Having served as a conservation officer in Crawford and Erie counties for the past 13 years, I was of the opinion that I had dealt with about all types of wildlife damage complaints, including bear, that could happen in this area. Last April, however, Laurence Wade of Corry came up with an entirely new one. Pileated woodpeckers were destroying the sheeting on one side of his barn. There were plenty of chips on the ground and many of the boards were badly damaged on the south side of the barn. We figured the sun warmed this side, activating flies and other insects. The big woodpeckers chiseled the boards away to get at the buzzing insects.—District Game Protector Elmer Simpson, Union City.



Turnpike Jay-walker Tempts Fate

BERKS COUNTY—While assisting Food and Cover crew to erect a sign along the Turnpike on Game Lands No. 52, we had to use the Turnpike and parked our truck along the berm of the road. We worked in the area three days and sat in the truck to eat our lunch. Each of the three days, and at approximately the same time and place, we saw a hen pheasant cross the Turnpike from south to north. On two occasions she flew very low across the road. The third day she walked across, barely escaping being hit by a speeding car. I hesitate when I find it necessary to cross this road, but the pheasant seemed to have no fear of the traffic.—District Game Protector Joseph A. Leiendecker, Reading.

Beaver Braves Barks

SCHUYLKILL COUNTY—On April 23, Deputy Game Protector Joseph Slovick received a call at his home that some dogs were attacking a beaver at the Frackville Boro dump. A friend of Deputy Slovick's arrived on the scene and they managed to chase the dogs away and with some help placed the beaver in a large barrel in which it was transported to a beaver dam. The place where the beaver was attacked by the dogs was a long way from any water.—District Game Protector Billy A. Drasher, Tamaqua.



Flight Expert Is Grounded

SOMERSET COUNTY—On April 20, a man brought a bird in to me that he had picked up on the road near Somerset and which he thought was crippled. The bird was a loon and we put it on a pond where it immediately took off. This man was not aware that the loon could not take off when on the ground.—District Game Protector E. W. Cox, Somerset.

Cooperative Nesting Plan

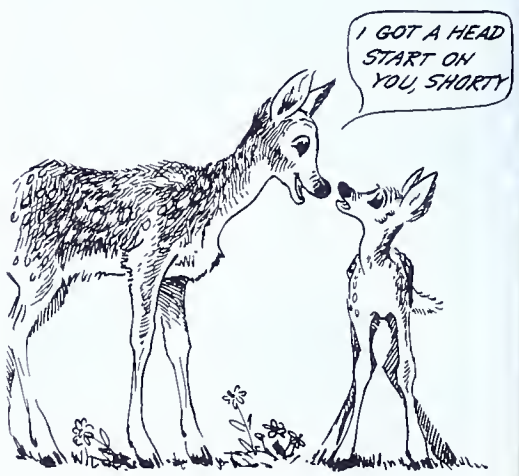
WESTMORELAND COUNTY—While on foot patrol April 21, along a ridge above the Loyalhanna Flood Control Dam, I found a grouse nest containing 14 grouse eggs and four ringneck eggs. I noticed that one grouse egg was cracked. When I checked it again on April 23, the grouse had removed the cracked egg; it was lying about a dozen feet from the nest. I never saw the ringneck hen on or near the nest. I don't know whether the two birds had made a deal of some kind about taking turns sitting on the eggs, but this is the first time I ever saw grouse and ringneck eggs in the same nest. The nest was in the big woods quite some distance from any fields or openings. I was anxious to see if the eggs of both birds hatched, but was doomed to disappointment when I checked the nest on April 29; it had been completely destroyed by a skunk.—District Game Protector D. W. Heacox, Irwin.

Small Swamp—Big Ducks

LANCASTER COUNTY—Along one of the busiest roads in the district, Route 222, I have a small swale that always produces some ducks. It is about fifty feet from the road where cars go whizzing by day and night. The swale is only about 100 feet long and 20 feet wide. Generally, there are only mallards nesting along it, but this year a pair of Gadwalls are using it too.—District Game Protector John P. Eicholtz, Strasburg.

Late-comer Outlasts Winter

LACKAWANNA COUNTY—Mr. McClintock of Bear Lake has a number of deer which visit his lawn for handouts of apples and corn and they have become quite tame. About the middle of April, he told me about a fawn which had been born in October and which was still carrying its spots. The fawn was not present at the time. However, several days later when I had occasion to contact Mr. McClintock, sure enough, the fawn appeared on the lawn with several other deer. There was no mistake about it, the fawn was still spotted and quite small.—District Game Protector Stephen A. Kish, Avoca.



A Sportsman's Guide To . . .

Washington County

Fifty-first In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Washington County covers 550,464 acres of which 129,506 acres are forested. Publicly owned land totals 3,494 acres, including 2,975.6 acres of State Game Lands.

Topography

The county lies in the southwestern part of Pennsylvania, west of the Monongahela River, and extends to the West Virginia state line. The land surface is hilly; some parts are decidedly rugged and broken by ravines. Several streams drain eastward to the Monongahela and north and west to the Ohio.

Transportation

Railroad transportation is furnished by the Pennsylvania, the Baltimore & Ohio, and the Pittsburgh & West Virginia lines. The National Pike (U. S. 40), the William Flinn Highway (U. S. 19) and other important routes traverse the county, which has 993 miles of improved State highways.

District Game Protectors

District Game Protector R. E. Doerzbacher, Box 56 (149½ Springfield Avenue) Washington (Phone: 6735) is assigned to the following townships: Hanover, Robinson, Smith, Jefferson, Cross Creek, Mount Pleasant, Cecil, Chartiers, Peters, North Strabane, South Strabane, Nottingham, Union, Hopewell, Independence.

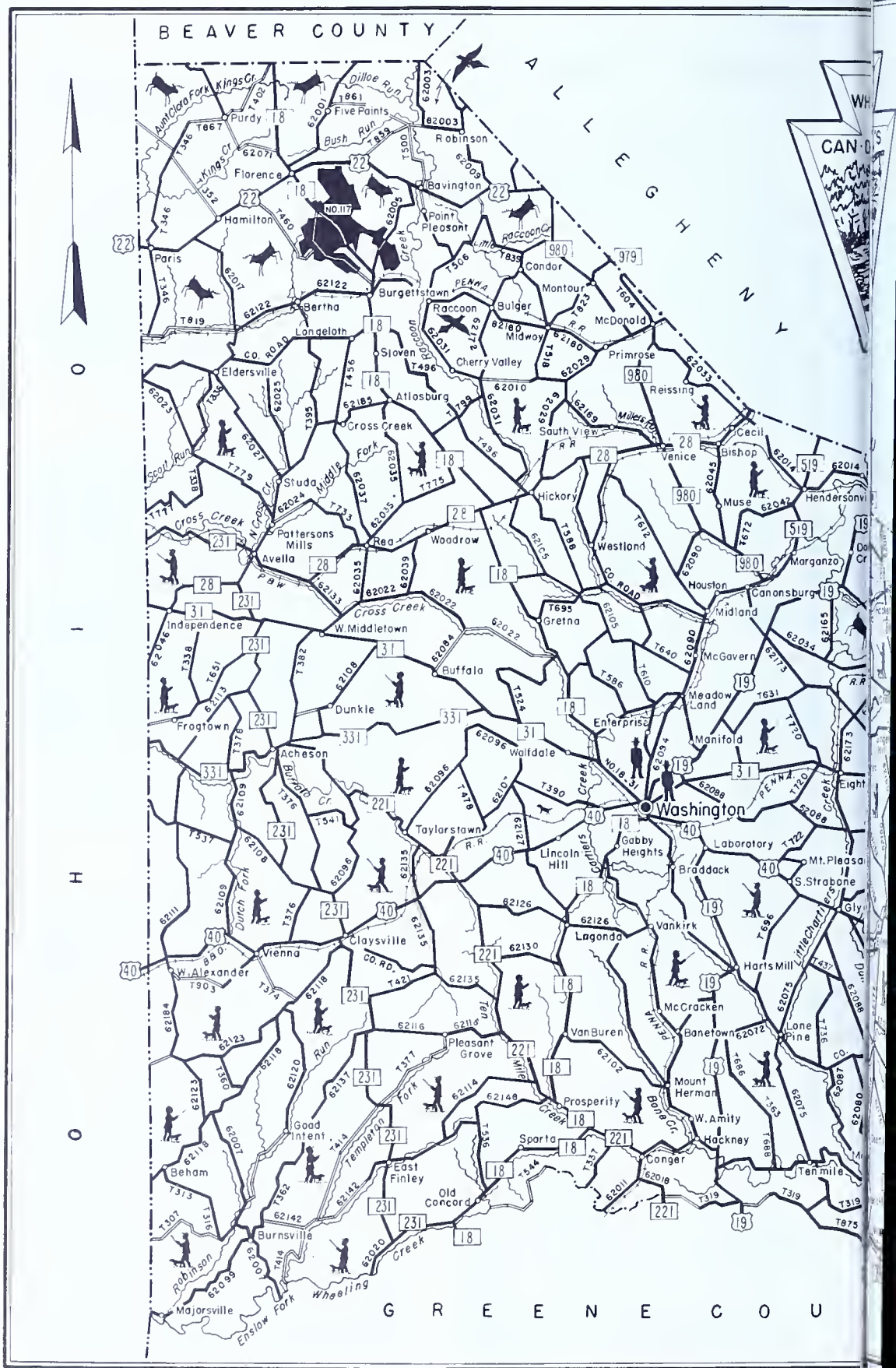
District Game Protector George T. Church, Box 123 (R #6), Washington, (Phone: 1120-J) is assigned to the following townships: Donegal, Blaine, Buffalo, Canton, North Franklin, South Franklin, Amwell, Morris, East Finley, West Finley, North Bethlehem, West Bethlehem, Bethlehem, Somerset, Fallowfield, Carro, Allen, West Pike Run and East Pike Run.

Fish Warden

Fish Warden Budd R. Brooks, Box 389, Washington (Phone: 2071-J) is assigned to Washington County by the Pennsylvania Fish Commission.

Agriculture

Washington County has excellent soil and was recognized in early days as a prosperous agricultural county. Its proximity to Pittsburgh, however, coupled with valuable deposits of bituminous coal, natural gas, petroleum, sand and clay has tended to make mining and manufacturing more significant than agriculture in recent years. The county does rank second in the value of sheep while crops of chief importance are hay, corn, oats, wheat and peaches.


BEAVER COUNTY
ALLEGHENY
OHIO
Washington
Burgettstown
Hickory
Cross Creek
Avella
Patterson Mills
Independence
W. Middletown
Frogtown
Acheson
Dunkle
Buffalo
Taylorstown
Claysville
Vienna
W. Alexander
Pleasant Grove
Good Intent
Beham
Burnsville
Majorsville
East Finley
Old Concord
Sparta
Prosperity
Van Buren
Lagonda
Lincoln Hill
Gabby Heights
Enterprise
Manifold
Meadow Land
McGovern
Gretna
Westland
Houston
Midland
Canonsburg
Muse
Venice
Cecil
Bishop
Hendersonvi
Marganzo
Primrose
Reissing
Montour
McDonald
Condor
Bavington
Robinson
Five Points
Purdy
Florence
Hamilton
Paris
Bertha
Longeloth
Eldersville
Atlasburg
Cross Creek
Studa
Sloven
Cherry Valley
Midway
Bulger
Raccoon
Point Pleasant
Woodrow
Red
Gretna
Laboratory
Braddock
Mt. Pleasa
S. Strabone
Harts Mill
McCracken
Banetown
Lone Pine
Mount Herman
W. Amity
Hackney
Conger
Ten Mile
Eight
Vankirk
Wolfdale
Dilloe Run
Bush Run
Kings Cr.
Aunt Clara Fork
Raccoon Cr.
Little Raccoon Cr.
Scott Run
Middle Fork
Dutch Fork
Templeton Run
Robinson Run
Enlow Fork
Wheeling Creek
Burgetts Fork
Little Chartiers Cr.
Chartiers Creek
Bane Cr.
Millers Run
Cross Creek
N. Cross Cr.
Burgetts Fork
Raccoon Creek
Little Raccoon
Kings Cr.
Dilloe Run
Bush Run
Burgetts Fork
Middle Fork
Dutch Fork
Templeton Run
Robinson Run
Enlow Fork
Wheeling Creek
Little Chartiers Cr.
Chartiers Creek
Bane Cr.
Millers Run
Cross Creek
N. Cross Cr.
Scott Run
Aunt Clara Fork
Kings Cr.
Raccoon Cr.
Little Raccoon



KEY

- County Seat
- Dog Training Preserve.
- Farm - Game Project (Open to Hunting)
- Game Protector's Headquarters.
- Deer Hunting.
- Small Game Hunting. .... Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Game Land.
- 28 - Pennsylvania Route Number.
- 40 - U. S. Highway Route Number.
- 62005 - Legislative Route Number.
- Township Route. (T460)

PENNSYLVANIA
GAME COMMISSION

WASHINGTON COUNTY

PENNSYLVANIA

0 1 2
Scale in miles

L.A.M.

Industry

Washington, the county seat, produces many kinds of glassware—decorative glass, glass jars and containers, glass wire, and tableware. Donora is one of the world's largest manufacturing centers of steel wire; Canonsburg produces pottery, china, tin and terne plate, and tinware. Charleroi is noted for its glass products.

History

Washington County has a most interesting historical background. Its territory was included in that part of Pennsylvania under controversy with Virginia from 1752 to 1783. It was the storm center of the Whiskey Rebellion. It was the first county to be formed after the Declaration of Independence and the only one during the Revolutionary War. Quite fittingly, the county was named for the most popular and outstanding military man of the time, George Washington. It is recorded that the nation's first president purchased, in 1775, 2,813 acres of land in what was later Mount Pleasant Township, Washington County.

Prior to the Revolution, settlers in western Pennsylvania were continually alert for Indian raids. In 1774 the Mingo chief, James Logan, incensed at the murder of his brother and sister by irresponsible white men, attacked the settlers in this territory. The pioneer families fled eastward over the Monongahela River, a thousand individuals crossing the river in one day at three ferries not a mile apart.

The home of David Bradford in Washington became the meeting place for the leaders of the Whiskey Rebellion in that vicinity. In 1791 all freight had to be transported to the eastern markets by pack horse. The settlers in Western Pennsylvania found it much easier to transport whiskey than the grain itself. When the new Federal Government imposed an excise tax of four pence per gallon on whiskey, the settlers in Washington, Fayette and other counties refused to pay this tax. Arrival of Federal troops to inforce tax collection quieted the rebellious farmers.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

Trout: Aunt Clara Fork, Florence, Rt. 22, 4 miles.

Bass: Buffalo Creek, Avella, Rt. 28, 10 miles; Little Chartiers Creek, Donaldson, Rt. 19, 6 miles; Little Chartiers Creek Dam, Donaldson, 80 acres; Ten Mile Creek, Washington, Rt. 18, 22 miles; and Wheeling Creek, Enslow Fork, Burnsville, Rt. 21, 7 miles.

Recreation—Hunting

This county is primarily a small game hunting area for such species as rabbits, squirrels, pheasants, bobwhite quail, and raccoon. One tract of State Game Lands, Number 117 located near Florence and covering 2,975.6 acres, is open to public hunting. There are four Cooperative Farm Game Projects in the county, also open to public hunting, as follow: Number 5, near Charleroi and Garwood, covering 3,571 acres; Number 140, near Bentleyville and Monessen, covering 4,012 acres; Number 168, near Atlasburg and Burgettstown, totalling 5,303 acres; and Number 190 near Finleyville and Crookham, covering 1,640 acres.

Hunting by Compass

By Tom Forbes



Photo by Don Shiner

It was nine o'clock. There was no sun nor hint of sun, though there was not a cloud in the sky. It was a clear day, and yet there seemed an intangible pall over the face of things, a subtle gloom that made the day dark, and that was due to the absence of the sun.

JACK LONDON.

A TOPOGRAPHIC map and a pocket compass can be compared to buckwheat cakes and maple syrup. In order to obtain the greatest benefit from either one, they should be used to complement each other. In the Leather Stocking Tales, Cooper's scouts are represented as telling directions, when the sun was obscured, by observing on which side of a tree of the forest the moss and bark grew thickest. As a youngster playing at scouting, I made many attempts to put this little gem of scout lore into practice without any success, and have long since learned to depend on the magnetic compass for direction. The sun is a dependable guide, but there is no assurance that it will be visible when the need to determine a proper course is an immediate necessity.

To make use of the magnetic compass, it is essential to understand the principal on which it works and the degree of accuracy that can be obtained in determining a true bearing by its use. The lines of force of the earth's magnetic field are employed to direct a needle mounted on a pivot, so that it moves freely in a horizontal plane only; therefore the horizontal component of the earth's force alone directs it. The direction assumed by the needle is not generally toward the geographic North but (refer to Figure 34 A) diverges toward the East or West of it. This failure of the needle to point to the true North is called the "magnetic declination" of the needle. Apart from local disturbances (such as those due to iron in the soil or in mines, trap rock,

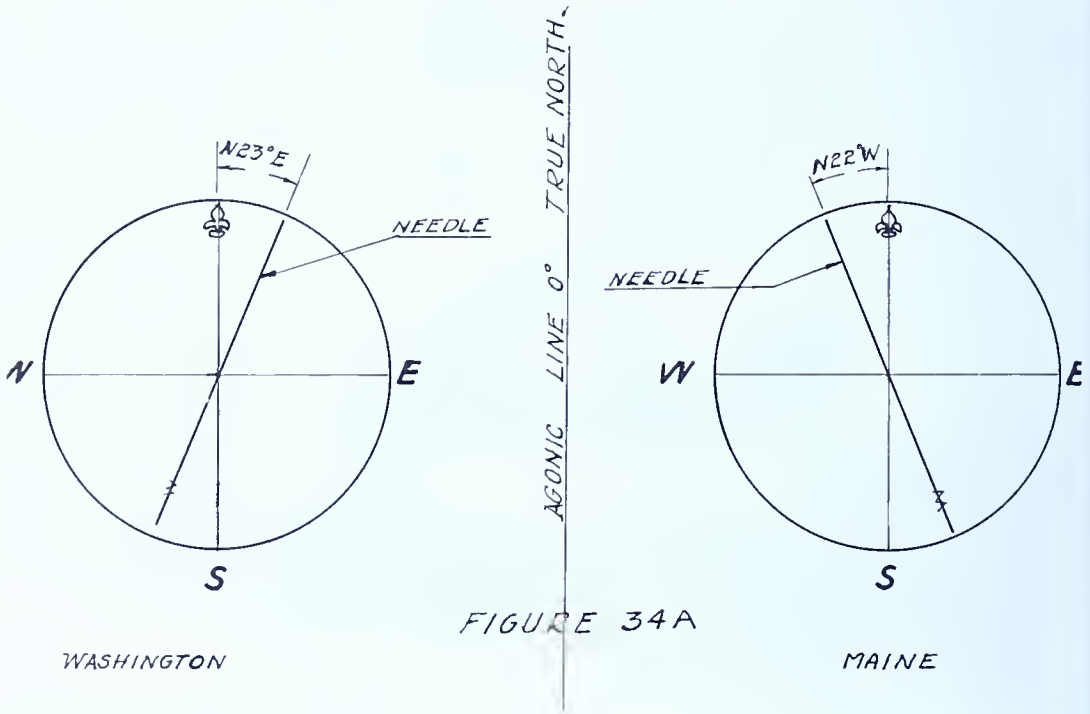
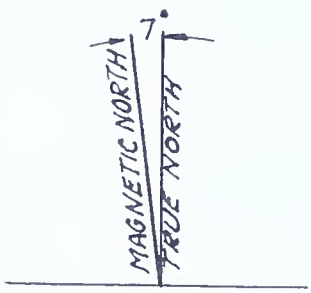


FIGURE 34A

articles made of iron or steel and carried on or about the person, steel in structures, etc., which cause the needle to be deflected from the magnetic meridian by a horizontal angle called the "deviation" of the compass), the declination varies from place to place at a given time, and from time to time at a given place. In the United States, however, there is an "agonic line" or line of no declination marked on the chart as 0 degrees, entering the country at present in the State of Michigan and leaving it in South Carolina. Along this line, the needle points approximately true North and South. At points not on or near the agonic line, the north end of the needle tends toward the line. In other words, at points east of the agonic line the declination is west, and vice versa. This declination increases with the distance of the point from the agonic line, reaching at present 23 degrees west in Maine and 24 degrees east in the State of Washington.



CENTRAL PENNSYLVANIA

FIGURE 35

MAGNETIC DECLINATION

Our first problem is to determine the magnetic declination in the locality in which the compass is to be used. On each quadrangle sheet of the United States Geological Survey topographic maps the magnetic declination or magnetic North, corresponding to the year of the survey for the area, is depicted on the lower margin of the sheet, Figure 35. If we were hunting in northcentral Pennsylvania and desired to determine true North by the compass, we would revolve the compass slowly in a clockwise direction until the needle read 7 degrees west— (N 7°W). The North-

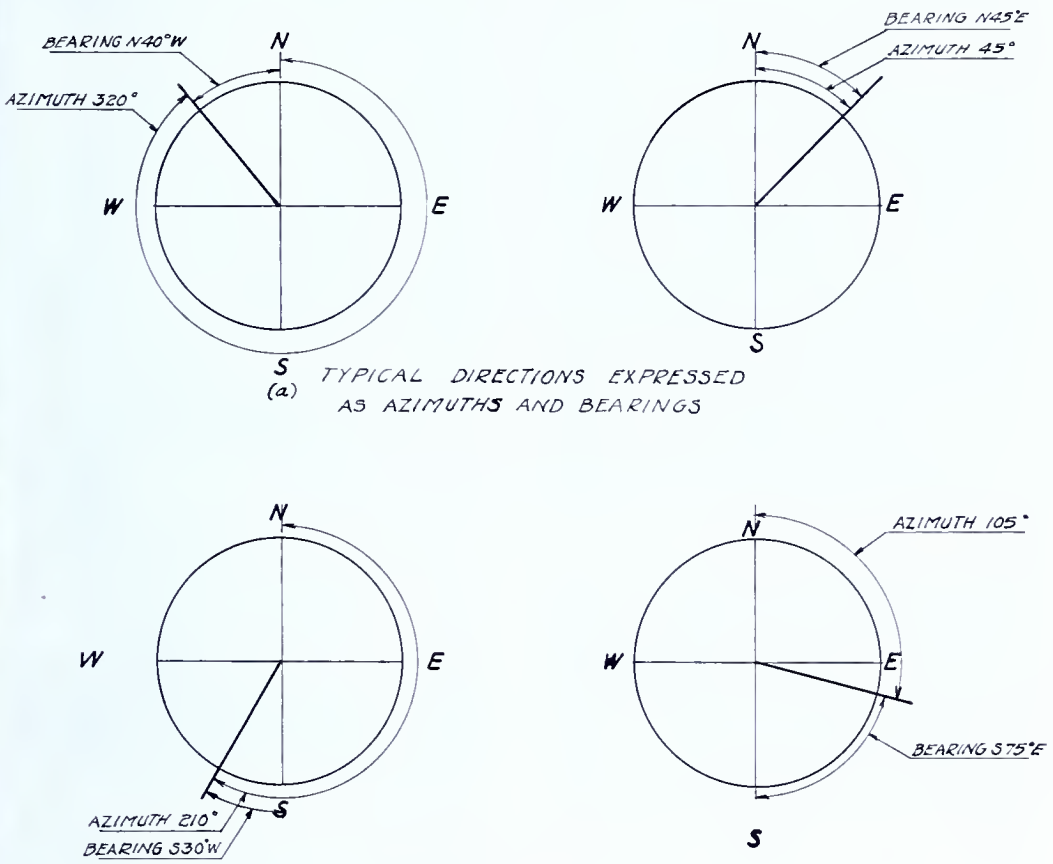


FIGURE 36

South line of the compass card would then point true North and South.

The standard compass card is divided into 32 points, and each of the four quarters or quadrants is divided also into 90 degrees. A satisfactory pocket compass is about the size of a pocket watch and should be enclosed in a case to protect the crystal. A mechanical means to hold the needle off the pivot, when the compass is not in use, is highly desirable. This prevents excessive wear of the pivot. A number of these devices operate automatically when the metal case is closed. The eight cardinal points of the compass—N, NE, E, SE, S, SW, W, and NW—are all that are necessary for the pocket variety of compass. The outer circle subdivided into four quadrants, each of which is subdivided into ninety degrees, completes the pocket compass card. Compass directions are expressed either as "bearings" or "azimuths," or by naming one of the cardinal points of the compass. Bearings are measured in each quadrant of the compass from 0° to 90°. Azimuths are measured in a clock-wise direction from 0° (North point, generally embellished with a "FLEUR DE LIS") to 360°. Typical directions are shown in Figure 36, measured both by bearing and azimuth.

Figure 36 is diagramatic only. The heavy black line does *not* represent the position of the needle in a fixed card compass; as the title specifically states, the heavy black lines in the figure indicate a direction. *The needle always points to the magnetic North.* You can picture it remaining stationary and the compass box revolving beneath the needle as you change direction. We have reached

the critical hurdle which we must successfully surmount if we are to learn to read and use a fixed card compass.

Suppose our destination is N 40° W of our present location. How will the compass card appear to us so that we can travel in the required direction and reach our destination? The required compass setting is shown in Figure 37. No! the drawing and title in Figure 37 are not incorrect. Remember—the needle can never point in any direction but magnetic North. There is therefore only one compass point where the needle and the compass point coincide and that is when your travel direction is due magnetic North.

The question immediately arises: How *is* the direction of travel ascertained by use of the magnetic compass? There are two common methods which may be employed. The first is probably the simpler method. Hold the compass in the hand and revolve the box slowly until the north point on the card is directly under the

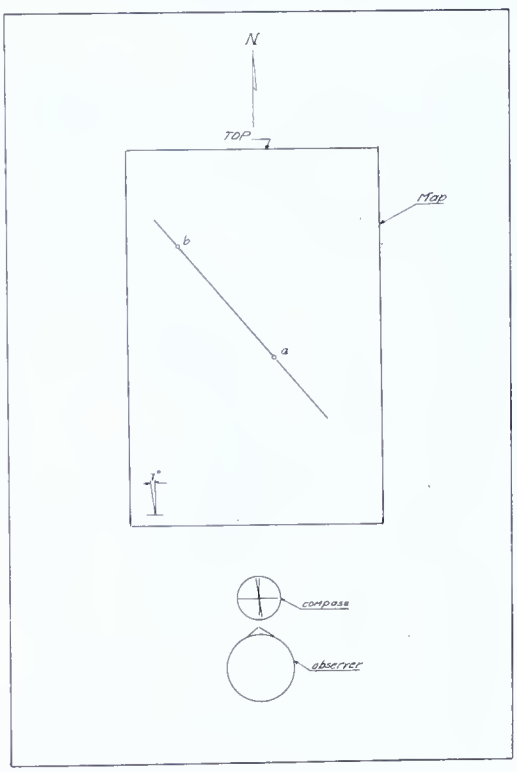


FIG 38

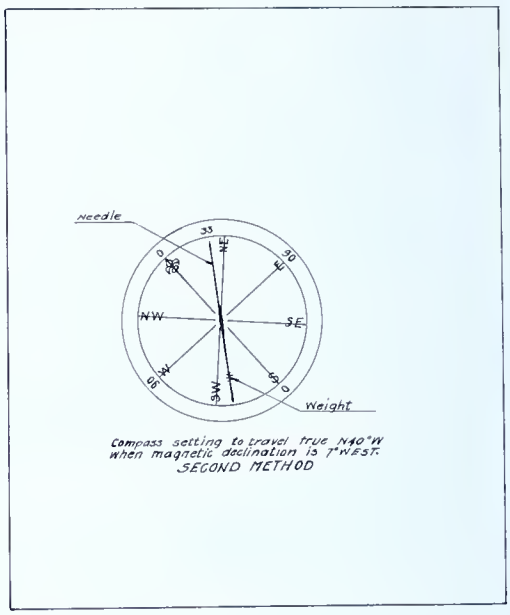


FIG. 37

north end of the needle. In the Northern Hemisphere, the north end of the needle dips toward the earth—and to bring the needle to a horizontal position on its pivot, a bit of fine wire is wrapped around the southern end of the needle. Thus the north end of the needle is readily identified. The needle will now be in the position indicated by the letters N and S of the compass card in Figure 36 (a). Now project an imaginary directional line of sight from the center of the compass needle through the 40° mark located on the arc of the compass card between the north point and the letter W. This sight is represented by the heavy black line in the drawing and it is pointing out from the center of the compass on the *magnetic* bearing N 40° W. However our destination is N 40° W of the geographic or true north and we must compensate for the declination of the needle in our portion of the United States. Suppose we use the declination in northcentral Pennsylvania, which is 7°, and for reasons previously explained we know that the compass needle is pointing 7° west of true North. Therefore we rotate the compass clockwise until

the north point of the compass card is 7° to the observer's right or East of the north end of the compass needle (Figure 39). The N-S line of the compass card is now pointing to the true or geographical North. Now if we sight along our imaginary directional line from the center of the compass needle through the 40° mark located in the N W quadrant, the line of sight is a true geographical bearing N. 40° W. Sight along this imaginary line to some distant point; walk to the point, and repeat the process until you arrive at your destination.

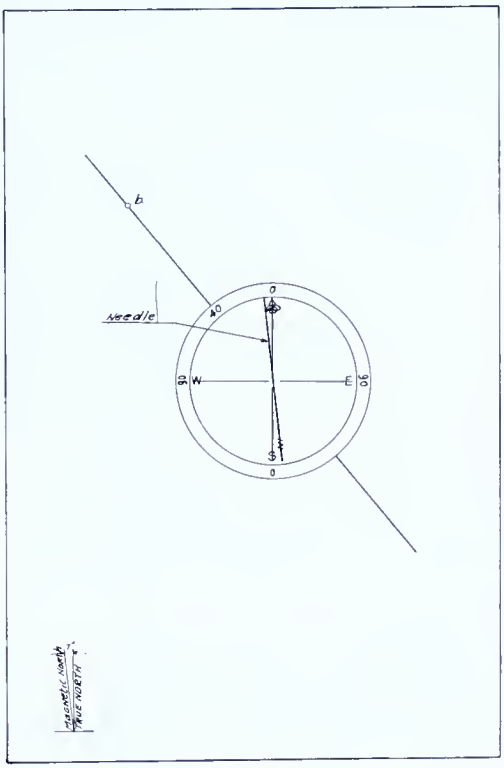


FIG 39

The second method: North on your topographic map is at the top of the sheet, and as you look at the map; East is to your own right and West your own left; while South is at the bottom of the sheet. Locate true North with your compass and lay the map flat with the top pointing toward the North. (Geographic or true North). This is called "orienting" a map (Figure 38). Your present location is designated on the map by point marked (a) and you wish to travel to point marked (b). Draw a straight line through these two points on the map with a soft pencil, and lay your compass on the map so that the center of the needle is directly over point (a), which marks your present position, and the north point of the compass card is 7° east of the north end of the needle (Figure 39). Now, since you wish to travel toward point (b), which is, by inspection, North and West of your present position on the map; rotate the compass box counter clockwise through 40° (degrees) of arc until the north and south points of the compass card coincide with the line (a-b), Figure 40, which you drew on the map to represent the course you must follow to reach your destination. Read the figure at the north point of the compass needle, which in this case is 33°. Ignore the fact that the north end of the needle is in the northeast compass quadrant, as you have al-

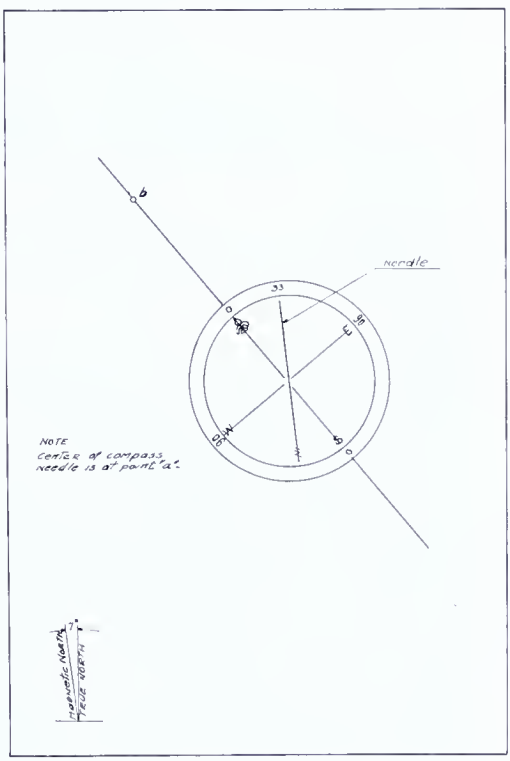


FIG 40

ready determined by inspection of the map that the line (a-b) is pointing in a northwest direction. Therefore your correct compass reading for the course is 40° minus 7°, which is N 33° W, which in turn, is exactly the same reading shown in Figure 37.

Time and distance are the two factors that must be given consideration in planning any hunt. How long does it take you to travel a mile over typical terrain in your hunting territory, under conditions governed by a hunt? You will need to know; before you can lay out a projected hunt on a topographic map. By inspection select two points on a topographic map which you have scaled and found to be one airline mile apart. Walk from point to point in the manner in which you usually conduct a hunt and record the time interval necessary to cover the distance between the two points. If your hunting territory is mountainous, record the time necessary to hunt from a valley to the crest of the adjoining ridge. Make several of these jaunts and you will have obtained fairly accurate data on which to plan a hunt. For example, let us suppose that you have settled on a figure of a mile an hour as your forward progress during a hunt. A reasonable estimate would be that during a morning's hunt of four hours duration you could expect to cover a map distance of four miles. On the usual topographic map scale, one inch on the map represents one mile on the ground approximately. Lay out your route on your topographic sheet, beginning at your cabin, so that the total combined length of all the courses measures four inches. The last course should end at your starting point. The course outlined on the map represents an air-line distance of four miles on the ground. Over rough terrain you will of course travel farther than the four miles scaled on the map, since you will have to walk up and down the hills. Determine the compass bearing and time interval required to travel each leg of the course, and mark the compass bearing on each leg of the route, together with the estimated time of arrival at certain check points which you have noted on the map and will be able to identify on the ground. You may project a route on your map which carries you into new territory; take your time, select definite land marks on the course and walk to them even if a detour is required along the way; check your course frequently, and follow the bearing given by your compass. Since the compass will not register accurately if near your gun or axe, or any other iron or steel that may be on or near your person, and you are in doubt about a direction, move a short distance and take a check reading. If you are convinced that North is in some other direction than that indicated by your compass, I suggest that you defer to the compass north. After all, you could be wrong and probably are. No one will ever know that you lost an argument to your compass, and it will bring you safely back to camp.



Photo by Don Shiner



From an original painting by Joseph Artone

Hope for the Future

The Story of Susquehanna County's Second Annual Conservation Education Contest.

FOR the second straight year, the Susquehanna County Federation of Sportsmen's Clubs, in cooperation with parents, sportsmen, school administrators and teachers, and various conservation agencies, has brought conservation into the realistic thinking of over 1,200 boys and girls in Susquehanna's public schools. An awards banquet attended by over 400 people at Hop Bottom, Pa., the evening of April 14 marked the conclusion of second annual Lynn Rosenkrans Memorial Contest sponsored and administered by the county sportsmen.

Susquehanna County's conservation contest, named after a former Game Commission officer, the late Lynn A. Rosenkrans, Conservation Education Assistant in the Northeast Division Headquarters, is designed to create an interest in and a feeling of responsibility for natural resources by every 7th through 11th grade student in public schools of the county and Nicholson, Benton, Greenfield and Meshoppen. Each 7th, 8th



ESTHER CARTER, junior student at Elk Lake Joint School, won first prize in essay division

and 9th grade boy and girl was invited to prepare a conservation poster; each 10th and 11th grader to write a conservation essay. Suggested subjects included: The Road to Conservation, Fires Make Forgotten Acres, Conservation—The Backbone of Agriculture, Ribbons on Our Hillsides, Health and Soil, What Is Game Worth, No Life in a Dry Stream, Give Wildlife A Chance, and other allied titles. School teachers were advised to contact local conservation agencies and sportsmen's clubs for any reference material and help needed.

The posters were judged on attractiveness, presentation of the conservation theme, originality, neatness, planning and regulation size. Essays were judged on their content, originality, grammar and clarity of expression. Judges appointed by the Federation were: Mrs. May Mather, of New Milford, retired school teacher and art enthusiast; Mr. Francis Cope, of Dimock, forest conservationist; and Mr. Donald T. Dinsmore, Tunkhannock, Area Conservationist of the Soil Conservation Service. The rules committee consisted of Mr. Robert A. Capron, principal of Rush High School and committee chairman; Wayne Jesse, Mountain View Joint Schools; Raymond Kozlowski, Blue Ridge Joint Schools; and Donald Smith, Elk Lake Joint School. Mr. Warren W. "Barney" Singer, of Springville; and Mr. Linus Moore, of New Milford, represented the Federation in the planning and administration of the contest.

Winning students in both divisions of the contest were honored guests at the banquet, each being introduced by Donald Dinsmore and awarded fitting prizes as a highlight of the evening's program. In addition, schools represented by the first prize winners received trophy cups. Esther A. Carter, junior at the Elk Lake Joint School, Meshoppen submitted the winning essay "Our Hope For the Future," printed here, while Joseph Artone, an eighth grade student at William Penn School, Forest City, was awarded first prize for his outstanding poster, "Give Wildlife A Chance." Both received expensive wristwatches as top prizes.

Other contest winners in the essay contest were: Sandra Smith, Rush High School, second place; Marie Grover, Rush High School, third place; and Glen Johnson, Nicholson



JOSEPH ARTONE, eighth grade student at William Penn School, Forest City, displays his winning poster.

High School, honorable mention. In the poster contest second place was awarded Douglas Hall, Springville School; third place Richard Murnock, Forest City School; honorable mention Gerald Kelly, Thompson-Starrucca-Ararat Joint School. Second place winners received flash cameras and third prize nominees won pen and pencil sets.

Clubs comprising the Susquehanna County Federation of Sportsmen's Clubs, with their location and president: Canawacta Rod and Gun Club, Susquehanna, Jack Norris; Community Rod and Gun Club, Lenoxville, Ronald Ransom; Hallstead-Great Bend Rod and Gun Club, Jim McCreary; Harford Rod and Gun Club, William MacConnell; Lake and Forest Club, Forest City, Ernest Kaminski; Lymanville Rod and Gun Club, Lynn, Warren Singer; Rush-Middletown Fish and Wildlife Conservation Club, John Graham; Silver Lake Rod and Gun Club, Albert D. Noreika; South Lenox Rod and Gun Club, Robert Pratt; Triangle Sportsmen's Club, Hop Bottom, Donald Brownell, and the Susquehanna County Sportsmen's Association, Linus Moore.

In the words of contest committee chairman, "Susquehanna County is making a determined effort to atone for its past lack of vision concerning conservation. We have been wasteful with our soil, our forests, wildlife and water power. In recent years many projects have been started in our county to lessen this waste and to put to use the forces of nature as well as to restore those resources which have been idle or have not been put to their greatest use. We think this contest will encourage our boys and girls in high school to learn the real meaning of conservation and will repay us with wonderful forests, beautiful streams and lakes, and splendid farms." Certainly those who witnessed the spirit of cooperation evident throughout this county-wide contest and the highly successful banquet which climaxed it can testify to the success of the Federation's efforts. Here was conservation education in action.

Our Hope for the Future

By Esther A. Carter

DID it ever occur to you that nearly everything we need today for a comfortable living comes in some form from one or the other of our resources? We could not live for three days without our most essential resource, water; our food comes from the soil; on the grasslands live the animals which produce our meat, wool, leather, and so on; from the forests comes the lumber for houses, furniture, and strangely enough, the paper on which I am writing; we use minerals to heat our homes, cook our food, and run our automobiles; and our wildlife plays an important part in the balance of nature.

The lands of our forefathers were plentifully supplied with every natural resource. A great number of fish lived in the streams; the soil was rich and fertile; great herds of buffalo roamed over the beautiful grassland; and the newfound land was covered with a rich supply of wood from the stately forests.

When our forefathers started across our vast continent, they did not realize how fortunate they were to have such an extensive supply of natural resources; nor



did they realize that the supply might sometime in the near future became exhausted or extinct; consequently they did not use these wealths wisely. Soon it became apparent that each of these resources was fading away to a certain extinction.

In their fight for existence, our forefathers burned down much of the eastern forests. Continuing westward, they plowed the grasslands for their crops. The water supplies were contaminated by by the sewage which was disposed of in the lakes and streams. Soon the soil began to slip away because there were few forests or grasslands to hold it from erosion. Fish died in unclean streams. Dust storms blew away top soil. Even extinction of some of our birds and animals began to become a possibility.

At last people who followed these pioneers began to realize that the sole means of future existence depended upon a plan for the conservation of these resources. The main thing which aroused them to this fact was a realization that unless they conserved these resources, they would eventually be gone. They also began to understand that natural resources depend on people; and people, likewise, depend on natural resources.

Lumber companies who didn't replenish what they had destroyed, farmers neglecting their lands, factories which contaminated the water supplies, campers who had needlessly started forest fires, and the hunter who had killed more than his share of game, all were destroying our hope for the future years—our natural resources. Thus, an effort was begun to save our forests.

This effort toward conservation was started by President Theodore Roosevelt, who appointed "The National Conservation Commission." President Franklin D. Roosevelt furthered this move by enacting his reforestration and erosion control plan. And soon this plan broadened to include other resources. This conservation movement was a result of our leaders trying to make the best of nature's gifts for the use of all. Since then, conservation, the wise use of our resources, has become the greatest factor in saving our natural resources.

Idle fields have been covered with trees and grasses to prevent erosion; farmers have begun working to apply good land-use measures: strip cropping, building terraces, and the rotating of farm crops are but a few measures which have been taken to prevent erosion. The forests which have been cleared of their products have been replenished with seedlings; there has been formed a system of protection against forest fires and tree diseases.

The controlling of grazing and timber cutting on Federal and State lands has helped the move of conserving our timbers.

Cities have begun to protect the watersheds of their reservoirs, and progress has been made in correcting the abuses which endangered public health because of our poor water supply conditions. Ponds have been built on farm lands and a study of pollution has been conducted.

Wildlife has received protection through the game preserves and hunt-

ing laws which have been established. The government has erected numerous national wildlife reservations and game refuges, and has begun to regulate the uses of our priceless heritage in minerals which when once exhausted can never be replaced. Many commissions and committees on the problems concerning conservation have been organized in an endeavor to work out plans whereby our heritage in resources might be preserved. But though the struggle for conserving our resources has gotten off to a good start, it is not ended. These measures must be continued or the resources will diminish.

Saving is not the part-time job of a few; it is a never-ending struggle against a waste that involves all men. To be effective the conservation program must be observed by each and every one of us.

We can help by following our national conservation pledge:

"I give my pledge as an American to defend from waste, to work for wise use and good management of my country's natural resources—its soils and minerals, its forests, waters, and wildlife."



Only through the cooperation of all can the resources in our great land of America be kept in a plentiful state.

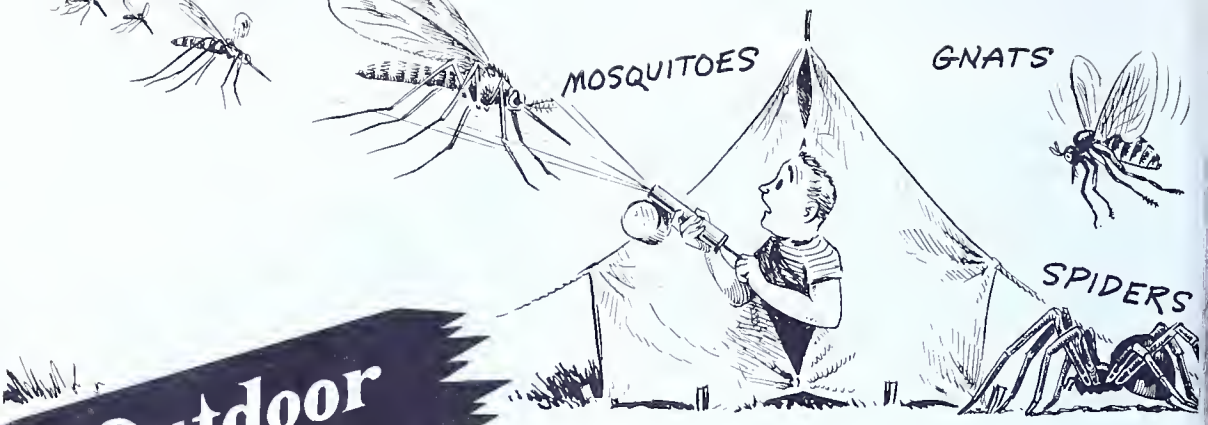
Road Killed Wildlife Figures High

It is not possible to learn the exact number of birds and animals killed on Pennsylvania highways in a given period. The reason is that even though a scrupulous record was kept some of the dead roadway victims humans prior to being counted. Others critically injured would succeed in getting off the right-of-way and out of sight before dying.

Anyone who motors over the Commonwealth in all seasons knows the annual loss of birds and animals to vehicles is tremendous. It remained, however, for a highway superintendent named Harry H. Sutton, of Indiana, Pa., to provide figures as accurate as obtainable on a county basis.

Game Protector Bruce W. Catherman says highway employees under Sutton's supervision reported removing these numbers of wild creatures from Indiana County roads in 1953: cottontail rabbits, 3018; ringneck pheasants, 156; woodchucks, 139; squirrels, 155; skunks, 124; raccoons, 36; porcupines, 48. About every species of furbearer, game bird and predator found in the county was listed in smaller number by the highway men in that twelve-month period. Deer removed from highways by workers totaled 9, close to one-sixth the number picked up by game protectors. The total of all wild birds and animals removed from thoroughfares by Indiana County highway workers in 1953 was 3710.

Such figures cause thoughtful persons to wonder that Nature, even with man's assistance, can offset the inroads of predators, disease, the elements, and mechanical predators. But she does it sufficiently well to supply sportsmen with a pretty reasonable supply of game and fur annually.



Outdoor Pests

By Ted S. Pettit

"There was a little chigger
And he wasn't any bigger
Than the point on a very small pin.
But the blister that he raises
Itches like blazes
And that's where the rub comes in."

TAKE it from one who has itched and scratched in all parts of the northeast, Pennsylvania included, there seem to be almost as many outdoor pests waiting to make your life miserable, as there are patterns of trout flies.

There are bugs so small you can't see them and snakes so big you don't want to see them—and in between are animals of all sizes that bite, chew, sting, spray or burrow under your skin in so many ways that you sometimes think of spending all your time tying trout flies rather than using them.

On top of that there are poisonous plants that seem to reach right out and grab you, and leave you itching anywhere from an hour to a week.

Thanks, however, to World War II developments in repellents and other research projects—plus use of common sense and some basic knowledge—you don't have to suffer if you take proper precautions. Unless you go out of your way looking for trouble, your chances of being bitten by a poisonous snake are not much greater than being struck by lightning.

Chiggers

Chiggers, red bugs, mites—whatever you call them—probably cause more itching than all other bugs combined, and they are common locally over much of Pennsylvania from late June to the first frost. They are so small you barely see them, and in the stage of life when they do their damage, they are so small they can crawl through the material of all but the most tightly woven clothes.

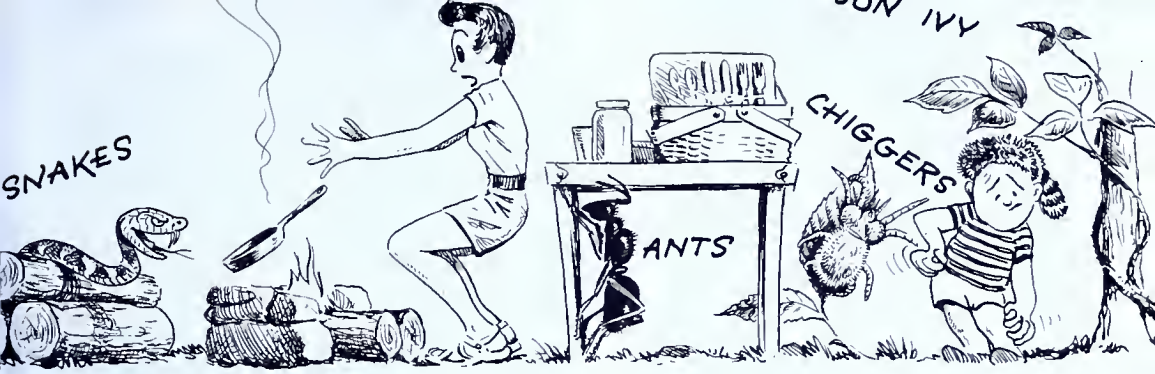
The larva of the little pest does the damage. They hatch out as soon as the weather warms and keep hatching until frost. You pick them up in shrubbery of all sorts, from grass to tree trunks. The best way to get a load of them is to stretch out on the grass for a nice sleep.

When a chigger lights on you, he



OUTDOOR FUN WITH A FUTURE





runs around looking for a tight spot in which to hide. Belts, garters, tight socks—any clothing that fits snugly—provides just the spot for a chigger to dig in and do his dirty work. Contrary to popular belief, a chigger doesn't bite nor does he burrow. He just sticks his little snoot in your skin at the base of a hair and squirts in a fluid that breaks down your skin cells. Then he sucks up the cells and eats them. It's the fluid that causes the itching and burning and if you've never furnished a meal for a chigger, you don't know what you've missed.

For a bug that isn't any bigger than the point of a pin, a chigger can raise a welt that makes a yellow jacket green with envy. Enough of these bites at one time and you're a candidate for a straight jacket. The bites themselves are not serious. But what is serious is the danger of secondary infection from the scratching. And don't believe those stories about all the things that will stop the itching. Nothing really stops it except time—and several days at that.

The best bet is to keep chiggers off in the first place, and it can be done. One of the best things is a spray that comes as a bomb—Ticks-Off. Spray it on your socks, shoes, trouser legs, and around your waist. Just to play safe, spray it all over you. And you won't get chiggers. But if you change your clothes and don't spray—boy, will you itch! One spraying a day will really keep them off.

Another product, which comes as a sulphur-impregnated paper towel-like material, is also very good. You wet a small piece of the material and rub it over your ankles and legs, and around your waist. When wet, it works up into a lather which sticks to you and serves as a repellent. The only hitch is that it's sticky and gooey and smells slightly like an old stable. Every time you take a bath, you have to re-apply it, which makes taking a bath pretty much a waste of time. But if you don't mind the smell, you won't itch from chiggers.

Another preventive is to dust your clothes with flowers of sulphur, derris powder, or pyrethrum. But any of these furnish only temporary protection and must be repeated several times a day.

Remember that old adage about an ounce of prevention? It certainly applies to chiggers. Preventing them is much easier than curing them.

Ticks

Ticks are closely related to chiggers, only they are big enough to see and to feel. Usually, you can feel them walking around on you, and you can pick them off before they do any damage. But if you miss one and give him time to find a suitable spot, you may be in for trouble.

Ticks stick their heads under your skin and fill up on blood. When they start, they are about as big as this letter "O". When they finish, they are almost as big as a dime. The difference in their size is your blood. Your first inclination when you discover a tick that has burrowed in is to pick him off. But he won't "pick." You'll only break his body off and his head will remain under your skin. Then you'll stand a good chance of getting



BEST WAY TO AVOID SNAKE TROUBLE is to look before you step or reach. Don't place your hands or feet into places which might harbor poisonous snakes without checking them first.

an infection, or, according to your location and the kind of tick, maybe it will be Rocky Mountain spotted fever.

To get rid of a tick, light a match, blow it out, and while it's still hot, touch the end of it to his hind end. He'll pull his head out of your skin and turn around to see what is going on. Then knock him off and sqaush him, drop him in the fire, or step on him. But be sure he's dead and can't get at you again. If, a few days later you don't feel so good, see a doctor. There are anti-biotics now that work against tick fever.

Again, prevention is much better than a cure. The same repellents that work on chiggers also work on ticks. In addition, lindane, which is available in many drugstores, may be used to spray on your clothes. Or it may be added to the water in which you wash your fishing clothes.

Some of the mosquito, gnat, fly, or "punky" repellents also repel chiggers and ticks. This is especially true of those that contain dimethyl phthalate.

Mosquitoes and Gnats

Speaking of mosquitoes, gnats, punkies, and flies, they can make any outdoor trip miserable, too. But there are many excellent repellents available in most outdoor supply stores or drugstores that keep them at a distance. Of the two kinds that I've found to be very effective, 612·comes as a liquid in a bottle, the other Tan-Too as a paste in a tube. Neither of them has an objectionable smell, and both quickly evaporate leaving no gooey or sticky after-effects.

If you're unlucky enough to get caught out without a repellent, we've found that household ammonia rubbed on sparingly will quickly relieve the itching. A paste of baking soda and water also works effectively, but ammonia is easier—although a little more pungent.

Poisonous Snakes

According to herpetologists—those fellows who like snakes so much they study them for a living—poisonous snakes have been, or are, found in every state in the country. That doesn't mean that you will find snakes in every part of every state—but unless you know the territory where you are going camping or fishing, it's well to be prepared. Actually, very few people are killed by poisonous

snakes—but you don't want to become a "statistic" in a news release of a safety council or an insurance company.

From what professional naturalists tell us, and from experience, there is no poisonous snake in this country that will attack you. Snakes, generally, avoid you as much as you do them. But you may accidentally corner one, step on one, or stick your hand too near, and he'll naturally try to defend himself.

Copperheads and rattlers are found in Pennsylvania. Their venom attacks the blood stream and breaks down the blood cells. The seriousness of their bites depends upon the amount of venom they inject in proportion to the amount of blood in the person they bite. A large snake biting a child might have very serious results. But, generally speaking, a small snake biting a large man would produce less serious consequences.

But even if you weigh 200 pounds and a very small rattler bites you, don't dillydally. Know what to do and do it fast. First, hard as it may be, stay calm. Sit down or lie down. Keep warm. Don't run around; it only makes your blood circulate faster. And don't drink any of the proverbial "snake bite medicine." That's the worst thing you can do.

If you don't have a snake-bite kit with you, tie a belt, necktie, piece of rope, or piece of cloth two inches or so above the bite, between the bite and your heart. Don't tie it too tight. It's not a tourniquet—it's a binder. Be sure to loosen it for a minute or so every fifteen minutes, then tighten it again. If your arm is swelling badly, move the binder up a few inches.

Sterilize a sharp knife or a razor blade with a lighted match and make some quarter-inch deep, half-inch long, X-shaped cuts over the fang marks and in three or four other places nearby. If you have an antiseptic, clean off your arm before you make the cuts. Otherwise, wash it off with water if you can. Then suck out blood by mouth or with a suction device that comes in a snake-bite kit. If you have a sore or cut in your mouth or lips, don't suck by mouth. You'll only be taking the venom from



Photo by Karl Maslowski

POTENTIALLY DANGEROUS, the copperhead is so secretive that it seldom bites anyone. Pennsylvania copperheads are most often found in rocky upland areas, average about 30 inches in length.

the blood in one place and putting it back in another. Don't worry if you accidentally swallow some. Your digestive juices will take care of it. The important thing is to get as much venom out as soon as possible.

If there is someone with you, send him for a doctor. Tell him what kind of snake bit you so he can get the anti-venom. If necessary, have someone carry you to a car or boat. Try not to walk. Above all, keep calm and warm. Shock will set in, and many times it's shock that proves fatal instead of the snake bite.

If you are all alone and can't call for help, you'll have to walk out. But don't run, and keep up the suction over the cuts. Keep your arm bleeding, and as the swelling moves up, move the binder also and cut some more X-shaped gashes.

The best way to avoid snakes is to learn what they look like, where they live in your area (or the area where you are going to visit), and something of their habits. Visit a zoo or museum. Look at live snakes or at least at mounted ones. It's much better than studying pictures. Find out all about these snakes and avoid them. Snake bite is painful as well as potentially serious.

Spiders

The same type of first aid is needed for spider bites as for snake bites as far as the binder is concerned. These little beasts inject a poison that causes pain, swelling, nausea, and shock. As the poison spreads through your blood stream, the symptoms become more acute. So try to stop the flow of blood from the bite to your heart by using a binder. Again, loosen it periodically. But get to a doctor as soon as possible.

Poisonous Plants

The same rule applies to poisonous plants as applies to poisonous animals. Learn to recognize them in all their forms and to avoid them. Some people are much more sensitive to poisonivy, poisonoak, and poison-sumac than others—but don't kid yourself into believing that you are immune just because you never had it. It's always the fellow who brags that he doesn't get it who comes down with the worst dose.

If you are exposed to any of these poisonous plants and know it, wash yourself well with yellow laundry soap. Wash your clothes, too, and your shoes, since they can infect you later on when you least expect it.

If you don't catch it in time and break out in little blisters, get your druggist to mix you up a 10 per cent solution of tannic acid (one-quarter pound to a quart of water).

Break the blisters by gently rubbing them with a gauze pad soaked in rubbing alcohol. Do not use the alcohol a second time. Then lay a gauze pad, or piece of cheese cloth that has been soaked in the tannic acid solution, over the blister area. Leave it there for half an hour. Repeat the process every six hours until three or four applications have been made. If large blisters, extreme redness, or infection appear, see your doctor.

These are the most common pests that provide an "occupational hazard" for the outdoorsmen. In every case, prevention is easier than the cure. If you know your stuff, you can avoid those few bugs, snakes, and plants that may easily ruin a vacation or fishing trip. Take these simple precautions. It's easier in the long run—unless you enjoy the itching and scratching.

CONSERVATION NEWS

Duckling Program in Full Swing

The Game Commission's duck rearing and releasing program, now in its fifth year, is going according to plan. That is the word from the so-called duck factory on State Game Lands No. 213, Crawford County. The waterfowl are reared there from day-olds to five weeks of age, then liberated.

The Commission's Waterfowl Coordinator, Robert E. Latimer, says the aim this year is to rear and release as many ducks as in 1954. Last year over 8,000 ducks, almost entirely mallards, were freed in marshes, beaver dams and other out-of-the-way places in the state. These ducklings are leg-banded before being set free. The bands carry the Pennsylvania Game Commission identification and serial numbers. Hunters who bag banded ducks and persons who find them dead of any cause are asked to report the birds to the Commission. These reports are valuable in tracing migratory patterns.

Under a new experiment the eggs from 250 wild mallard hens that mated with wild drakes are being incubated this spring at the Commission's Western Game Farm, near Cambridge Springs. These day-old birds will be reared and released in the same manner as purchased ducklings. Records on them will be carefully watched to learn whether these birds acclimate themselves, when liberated, more quickly than day-olds bought from propagators.

Under this year's program the first ducks were liberated the week of May 9. A schedule of weekly releases will continue until the middle or latter part of June. By that time the leg-banded ducklings will have been liberated in all parts of the Commonwealth.

WEEK-OLD MALLARD DUCKLINGS, hatched and reared in the Game Commission's "duck factory" in Crawford County, are inspected by, left to right: Commission vice- president H. L. Buchanan, of Franklin; George Wenger, of Port Clinton, Ohio, chairman of the Ohio Natural Resources Commission; Allen Clemons, an Ohio resort owner and wildfowler; and Bob Latimer, Commission waterfowl coordinator.

PGC Photo by Parlaman



Don't Import Bear Cubs

There have been reports that occasionally live bears are brought from Canada into this state. Some Pennsylvanians do not attempt to conceal the fact they are bringing bears, usually cubs, across the border. This is evidenced by the fact they sometimes declare the animals to border authorities.

A 1948 regulation, made by the Pennsylvania Game Commission under authority vested in it by law, reads: "It shall be unlawful for any person to bring into this Commonwealth any live bear or bears, except for menagerie educational or zoological purposes, which have been secured from any other state, province or nation, and it shall be unlawful for any person to bring into and release into a wild state within this Commonwealth any live bear or bears secured from any other state, province or nation."

The regulation is still in effect. Violation of it carries a $25 fine.

Summer Hunting Hours

Woodchuck hunters going on Daylight Saving Time are reminded: all shooting hours for wild game in Pennsylvania are based on Eastern Standard Time. Therefore, the current 7 a.m. to 5 p.m. game hunting hours, set by law, are 8 a.m. to 6 p.m. according to Daylight Saving Time.

From July 1 to September 30 inclusive, however, game shooting hours (includes those for chucks) will be 6 a.m. to 7:30 p.m. "slow time," or 7 a.m. to 8:30 p.m. "fast time."

BOY SCOUTS of Troop 31, State College, did a fine job this past winter in constructing and erecting 14 wood duck nesting boxes. This was their third project in the national Conservation Good Turn program sponsored by the scout organization.

PGC Photo by Steve Licinsky





PGC Photo by Luttringer

SIXTH GRADE STUDENTS from Brockway schools find fawn deer a center of interest during pilot outdoor education project at Game Commission training school last May. Both students and teachers were enthusiastic about success of cooperative program between local school district and many outside conservation agencies.

Don't Kidnap Nature's Children

Rarely does anyone remove a cub bear from its woodland home in Pennsylvania. While the opportunities for such acts are few compared to those of other animals there is another good reason why humans remain at discreet distance when cubs are discovered. The mother stays close to her youngsters, and she is quite ready to deal out rough treatment to anyone who attempts to handle or take one of them.

Not so with most wild birds and animals found in the Commonwealth. At the approach of man timid deer and rabbits dash away from their young or remain at safe distance. Under similar circumstances wild birds of forest and farm retreat from nests holding eggs or young.

The high percentage of wild animals and birds stolen from the wild eventually die, even when cared for by experienced persons. Only a small percentage of bird eggs are hatched by amateurs, and few of the chicks so raised survive to maturity. During egg laying and early in the setting period a wild turkey hen that has been frightened from her nest will readily desert it. In such cases the noble birds that would have hatched are lost to the hunters.

When turned loose, fawn deer reared in captivity are unable to fend for themselves so well as their brothers and sisters tutored in the ways of the wild by their mothers. "Hand raised" deer are accustomed to humans, dogs and autos. They are often killed when released in the open, therefore, simply because of misplaced faith. For this reason deer are usually sentenced to a fenced-in life for their own protection. Also, pet bucks, once they have grown antlers, have a habit of turning vicious and attacking unsuspecting persons.

One of the most inhumane things a person can do is to take wild birds and animals away from their natural mothers simply because they are cute, or in the mistaken impression they have been abandoned because the mother is not there in the presence of a natural enemy, man. Children should be taught it is cruel or unsafe to pick up wildlife eggs found in field or forest.

Desiring to discourage taking wildlife or disturbing nests, the Game Law provides "pocketbook education" for persons who cannot resist the urge to cuddle or keep wild babies.

Game Bird Cooperative Nesting Plan

Two widely separated Pennsylvania Game Protectors recently located nests showing how lazy or inconsiderate ring-necked pheasant hens sometimes are.

Game Protector William E. Fulmer, Carbon County, reported: "Near Weissport, early in April, a duck nest was observed to contain a goodly number of eggs. Among the duck eggs were two pheasant eggs. A female pheasant was seen to leave the nest when persons approached. Pictures were taken of a mallard hen and a ringneck hen sitting side by side on the nest. There was a grand total of 34 mallard eggs, plus 2 pheasant eggs, laid in the same nest.

"At present a mallard hen is setting. There is much speculation as to the possible result. Could be a bit of confusion if the pheasant eggs hatch along with the duck eggs—especially if the 'mother' expects all the young to swim."

Game Protector D. W. Heacox, Westmoreland County, tells this two-in-one nesting story. "On April 21st, while on foot patrol on a ridge above the Loyalhanna Flood Control Dam, I found a grouse nest containing 14 grouse eggs and 4 ringneck pheasant eggs. This was in big woods quite some distance from fields or openings. One grouse egg was cracked. Two days later the cracked egg was about 12 feet from the nest. I never saw the ringneck hen on or near the nest.

"I was anxious to see if the eggs of both birds hatched, but suffered a disappointment. When I checked the nest on April 29th I found it had been completely destroyed by a skunk."

The ringneck's habit of laying eggs in other game birds' nests was covered in a research report by Dr. Logan J. Bennett in 1936. The report was based on a study he made in Iowa that year. The Pennsylvania Game Commission's present Executive Director was then a biologist employed by the old U. S. Bureau of Biological Survey. The following extracts are from Dr. Bennett's report titled The Ring-necked Pheasant Is A Nesting Parasite Of Other Game Birds.

"In many cases pheasants utilize puddle duck nesting areas as readily as do ducks. In 1934 the author observed one pheasant nest per acre on a one-hundred-acre tract of a duck nesting area in Iowa. During the duck studies 340 puddle duck nests were observed. Of this number 16 contained pheasant eggs.

"The largest clutch found was that of a blue-winged teal containing fourteen teal eggs and eleven pheasant eggs. In only one case did the pheasant eggs outnumber the duck eggs. A number of single pheasant eggs were found from several inches to several feet from duck nests.

"In all cases the nests were occupied by ducks and not by pheasants. In two instances the pheasant eggs hatched at the same time as those of the duck. One can imagine the situation that must have arisen when the duck took her brood to the marsh!"

At the end of his report, 19 years ago, Dr. Bennett summarized his findings as follows:

1. Approximately 4.7 percent of the puddle duck nests in the prairie area of Iowa are parasitized by the ring-necked pheasant.

2. Apparently pheasant eggs deposited in duck nests reduce the potential number of duck eggs.

3. A small percentage of pheasant eggs deposited in duck nests hatch.

4. There is no apparent strife between nesting ducks and nesting pheasants.

5. A small percentage of king rail nests, Virginia rail nests, and European partridge nests are parasitized by pheasants.



PENNSYLVANIA GAME PROTECTOR Paul Miller, Butler, finally succeeded in live-trapping this whistling swan. Bird had made "emergency landing" on sludge beds of Butler steel plant after being injured. After months of effort, swan was caught and moved to safer resting place at a local refuge.

Young Trapper Catches Prize Muskrat

George Stock, Jr., age 15, of Cresson, Pennsylvania, received a very pleasant surprise when he visited his trapline on January 10, 1955. He found that he had taken a muskrat of nearly three times the average size of this fur bearer.

The pelt was prepared and sold to Sears Fur Depot, who made a daily award to young Stock for the best prepared pelt received by them on that day. In addition, they reported to him that the pelt was the largest received by them in over five years.

Stock has been trapping four years in company with Paul Plazek, age 17, also of Cresson. Their traplines have been located for the most part on the clubgrounds of Cresson Community Sportsmen's Association between Cresson and Loretto. During the 1954-55 trapping season, these youthful trappers accounted for a total of fifty-two muskrats.

Release Game Birds and Plan Day-Old Pheasant Chick Allocation

The Game Commission has completed its spring liberation of game birds in Pennsylvania. In round figures 48,000 ring-necked pheasants and 2,600 wild turkeys were released where conditions indicated the best results would be realized. The ratio was about one male pheasant to two females, and one gobbler to four hen turkeys.

Approved applications indicate that about 234,000 day-old pheasant chicks will be distributed this year, principally to Farm-Game Project cooperators and sportsmen's clubs. This figure is higher than that of any previous year since the chick program was put into effect. Last year 181,863 pheasants—83% of the chicks received by sportsmen and farmers from State Game Farms—were raised and liberated in the state through this program.



PGC Photo by Parlaman

GOOSE-LOOKERS GOT TOGETHER at Pymatuning refuge in Crawford County last May 14-15 for their annual outing. This unique group of prominent industrialists, professional and business men from Pittsburgh have met each spring for 47 years to observe wildfowl and enjoy the outdoors. Only three of the original 40 charter members—James S. Pates, Carl Behrhorst, and John A. Brown—are still living. Never a formal organization, the Goose-lookers have no set meetings, no election of officers, no by-laws. All, however, are conservationists and men interested in natural history.

University Conducts Wildlife Studies

The Forestry Department of The Pennsylvania State University recognizes the recreational value of forest-dwelling wildlife in setting up its management plans. From the Penn State Centennial (1855-1955) issue and other sources we learn these things about the University's wildlife management research:

Studies of forest game species are an important part of the work on the Experimental Forest. Of these, white-tailed deer research is a major project of the Forestry Department in cooperation with the Pennsylvania Cooperative Wildlife Research Unit and the Department of Zoology and Entomology. It has produced valuable basic information on the browsing habits of deer as well as the effects of cutting practices on deer food production.

Deer browse in the forest where woody plants are a major part of their diet. In a 5-year study, recently completed, definite seasonal preferences have been demonstrated. For example, red maple is a preferred food eaten heavily in winter only; sassafras on the other hand is rarely used in the winter but is a preferred food in the spring and summer.

Research on the more common forest game species is being carried out in suitable parts of the forest. Studies of population changes and life history of the ruffed grouse are yielding information on the nature of its habitat requirements.

A life history and management study of cottontail rabbits has been conducted for several years, and is continuing, on University farmland. Breeding populations, causes of mortality and hunting season checks to learn the percentage of the rabbit population harvested by the gun each season, are parts of the study. The winter food habits of the cottontail and the effect of predation on this popular game animal, are also recorded.



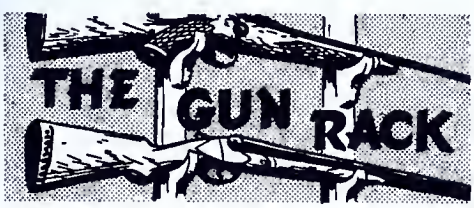
The Handgun in the Outdoors

By Ed Shearer

NEVER before have greater selection and values been offered the handgun clan, as during the last two years. Even this spring has brought a new crop embodying new features at modest prices that formerly were to be had only in the most expensive makes of handguns.

Just what gives? Manufacturers do not spend money on so many new models unless there is a market for them. The fact that 90% of the new handguns are .22 caliber can mean but one thing. Outdoor America, especially the part that takes to wheels in the summer months, is going in for handgun shooting in a big way.

From the family weekend standpoint there is just as much fun plinking with a handgun as a small caliber rifle. The transportation problem is a whole lot more convenient as well as comfortable. The one ever-present grief with a rifle and a car full of adults, juveniles and assorted outdoor equipment is that some one is either getting whacked over the noggin, or punched in another part of the anatomy, equally painful.



If you store a rifle in the car trunk, sooner or later, it gets jammed in between the canned stuff and whatnot and emerges with bent sights or is knocked out of alignment. With the handgun you simply shove it in the holster, tuck it in the glove compartment, turn the key and it rides comfortably and safely free from prying juvenile hands until wanted.

Getting started with the right handgun for the job in hand is important, as I learned from experience. My first handgun was an old Hopkins and Allen nickel plated, single action revolver shooting the 44 Winchester black powder cartridge. I must confess that while my execution was nil on the then numerous small game, it did have a soul satisfying roar and emitted a beautiful cloud of smoke.

My first good handgun was a Colt 38 special with target sights together with an old Barlow reloading tool

and bullet mold—the gift of an indulgent father on my 13th birthday.

For two summers prior, a school pal and I spent most of our summer vacation on pack trips to the mountains. It was just after the turn of the century and you could travel for days and never see a human. We camped where night found us and beyond the first day, fish or game was our meat supply.

I had a beat up Iver Johnson 38 caliber, my pal a 32 caliber "Young America" of dubious origin. It is obvious the fishing rods made the major contribution to the meat end of our diet. That old Iver Johnson taught me the basic rules of outdoor handgun shooting.

With the advent of the Colt Target 38 special there was a decided upswing in my interest. But it was not until two years later after seeing a trapper performing magic with a Stevens single shot 22 caliber pistol, that I acquired the pistol I should have had in the first place. In this case it was a Colt Police Positive 22 cal. with adjustable sights.

So in choosing your first handgun the 22 caliber gets the nod. It can be either a revolver or automatic pistol. The automatic, of course, is illegal for hunting in Pennsylvania but there are certain inherent advantages in each type. From the safety angle the revolver is probably a shade better than the automatic pistol, since you can tell by a glance whether it is loaded or not.

Since either type is going to take considerable shooting to achieve a fair degree of skill the cost of ammunition these days must be considered by most of us. There is some difference between 38 specials at $3.60 a box, 22 cal. long rifles at 70 cents and 22 cal. shorts at 46 cents a box. Using either one of the 22 calibers represents quite an additional bit of shooting for the same money.

The 22 cal. revolver is more adaptable than the automatic pistol as it will handle either 22 cal. short or long rifle cartridges. While the automatic pistol can be chambered and adjusted for 22 cal. shorts you cannot use long rifle cartridges in it. If you get an automatic pistol chambered for the long rifle cartridge, the short cartridge, not developing sufficient recoil, will cause malfunctions. However they can be used with the pistol being operated as a single shot.

This brings up the question, will shooting 22 cal. shorts damage the chamber of a revolver? This belief is a holdover from the days of potassium chlorate primers. These primers left a highly concentrated deposit of chemical salts in 22 cal. cartridges which quickly caused rust and pitting in any arm chambered for them. This caused a comparatively short life for the firearm.

If a revolver was used with shorts, the forward end of each chamber

The Game Law forbids the use of the Semi-Automatic Pistol for hunting or shooting any wild bird or wild animal. Accordingly, a person carrying such an arm on his trips to the outdoors could only use this type of pistol for target practice. Revolvers, on the other hand, can be used legally for hunting purposes with a few exceptions.

The exceptions are that the 22 and 25 caliber rimfire are illegal for hunting big game and both State and Federal laws restrict the hunting of migatory game birds to shotguns or bow and arrow only.

The Uniform Firearms Act provides that licensed hunters and fishermen upon payment of a fee of $0.50 can register their side arms with any County Treasurer and secure a permit which will allow them to carry the arm while actually hunting, fishing or training dogs in season and to transport the arm to and from such trips.



Photo by Henry M. Blatner

INDOOR PISTOL RANGE helps shooters get their eye on the target. The beginner will soon find that to become a good shot, it takes a lot more practice with a handgun than it does with a rifle.

would pit. Then it would be difficult to seat the long rifle cartridges. When it was fired, the forward portion of the cartridge case would expand into these pits, causing difficult extraction.

This particular bugaboo no longer exists as all 22 cal. rim fire ammunition is now primed with various non-corrosive mixtures. This leaves only erosion, which is eating away of the steel of the cylinder walls, to contend with. The pressures are low in the 22 caliber and the amount of powder used is small, so the burning is relatively cool.

Theoretically there should be a point where erosion should cause trouble—but where I do not know. A 22 cal. Colt Officers Model used in training and aerial work is around the 75000 round mark, with about 33% 22 shorts, is still giving no trouble. One thing is sure—by the time you ruin a cylinder you can well afford to buy a new one.

The 22 automatic pistol is much less complicated than the revolver. It does have many advantages. Due to the way it points most beginners do a little better shooting than with the revolver. When it comes to rapid fire it is in a class by itself. At the big pistol matches it is standard equipment with the rapid fire hotshots. In addition the automatic pistol is flatter, less bulky and a lot more comfortable to carry in holsters of various types.

From a safety standpoint the automatic pistol is decidedly more dangerous in the hands of a careless person for two reasons. You cannot readily see if it is loaded and when fired it is ready to fire again, with very little pressure on the trigger. But neither type handgun is dangerous if handled the way all firearms should be. Never point any gun at any person and always put firearms away unloaded.

Whatever type of 22 cal. the beginning handgunner chooses, it should

have adjustable sights. Just as no one can do a good job of sighting in a rifle for another, it is even more apparent in a hand gun. The gun that lays them in the black for one man may land them way out for another. Different people hold the gun differently which causes changes in recoil effect—and the point of impact changes. Handguns are generally very sensitive to changes in bullet weights and velocities. These also cause different points of impact, which calls for adjustable sights.

Fixed sights are all right for close range work on large targets and military work. But for target work or hitting small objects, you want the gun to hit where you are holding.

The beginner soon finds it takes a lot more practice with a handgun than with a rifle—to become a good shot. Every shooting fault a man can commit with a rifle is magnified many times with a handgun. The weigh and size of the rifle allows a sligh flinch or a sloppy pull sometimes an still gives a hit, somewhere, on a rea sonable sized target. The slightes flinch or yank on the trigger an sometimes even a change of grip wit a handgun will give you a miss at 1 yards.

I've handed a very accurate hand gun many times to a good rifle sho and watched them fuss and fume, try ing vainly to keep their shots in 20-inch circle at 25 yards. On movin targets that would have been duc soup to the same men with a rifle they could do as well with a hand ful of rocks.

On the other hand I have neve seen a good handgun shot that coul not do well with a rifle, especially i the offhand position. Accuracy i most difficult in this position as it i the most unstable and demands high degree of trigger control, whic is the very essence of good handgu shooting.

As it is important that the begin ner start right thus avoiding bad hab its which handicap him, it is bette to go by the book. The first step is t take an easy relaxed stance with th weight evenly distributed on both feet. Whether you face the target half face it or stand at right angles i unimportant, just so you feel comfort able. What is important is to relax Tension is the one major fault tha can happen to a handgun shot. It set up tremors in the firing arm an hand. It is tiring and makes the necessary delicate trigger control im possible. Watch the top handgun per formers at the national pistol matches You will observe that even unde pressure they stand relaxed, som even appear careless. So the first thin to keep in mind is to relax. It make no difference what you do with th other hand as long as you feel com fortable.

The handgun itself should be a extension of the arm. A line draw

STATE TROOPER Walter Miller holds a red fox he bagged last February with his .38 service revolver, hit in the head on the second shot from a distance of 75 yards.

Columbia New Photo



from the point of the shoulder to the V formed by the thumb and trigger finger should pass right through the sights. The arm should be straight, not bent. The gun should be held with the pad of muscles at the base of the thumb and behind the large joint of the trigger finger. The gun should then be supported on the middle finger. Thus holding the gun lightly but firmly, you should squeeze off your shot with the end of your index finger. You do not grip it as though you had a bear by the tail as that only gives you more wobble. The next hurdle is mastering the trigger pull.

The beginner usually gets flustered at the way the front sight jumps over the target and half the adjoining yard. So he tries to grab off a bullseye when the sights swing by. He not only fails by a country mile but is well on his way towards being a trigger jerker. Right here the beginner learns the best way to shoot a handgun is to keep the sights looking as good as possible; then increasing the trigger pressure until the contraption fires.

After the beginner has done this a couple of thousand times, he develops a sight picture and as the front sight stays in the vicinity of home plate, he no longer tries to grab off a bull as the sight romps past it. When it is on, he squeezes; when it is off, he holds it; keeping up this painful process until the piece fires. In short the beginner has learned the basic rules of good handgun shooting. Concentration on his sight picture; squeezing the trigger gradually and steadily and forget when the gun is going off.

There are some things you can do to speed up the process if you cannot shoot regularly. First of these is dry practice. Paste a small target on a room mirror (when your wife is out). Then go through the routine as in actual firing being particular to hold EXACTLY the same each time. Note carefully where the sights are when the hammer falls, thus calling the shot. If you are very serious, fill a milk bottle with sand and hold it at arms length for 5 or 10 minutes at a time to strengthen your arm muscles.

Foolishness? Not on your life. Its routine for every top notch match shooter in the country and he does it every day. Its the quickest short cut to handgun skill and the least expensive. When your shots are going where you are calling them you are at the forks of the road.

If you want to be a serious target shooter your best bet is to attend one of the regional NRA Matches where you will see some top flight handgunners in action. Note carefully how they do it. See what equipment they use and carry on from there. This is a highly specialized game.

If you just want to be a plinker or use the handgun on small game and varmints, you do this. You have learned the basic fundamentals without acquiring a mess of bad habits. Drop the manual in the nearest ash can. From here on you improvise. You learn to shoot sitting, prone or any position you may be in when the shot comes up. You shoot with one hand or two hands depending on conditions and its a good thing to learn to hit with either hand.

Then a new world opens with fascinating targets limited only by your imagination. It is a never ending source of healthful and instructive recreation for the whole family this summer and fits the most modest budget.

Things You May Not Know

The number of rattles on the rattlesnake's tail does not indicate the age of the snake. A new rattle is formed each time the rattler sheds its skin. Depending on the amount of food it eats, this poisonous reptile will shed from one to three times a year. Sometimes some of the rattles are broken off between sheddings.



Photo by Maslowski & Goodpaster

Handling Skunks

By Larry J. Kopp

ALTHOUGH skunks are comparatively easy to trap, they possess some peculiar characteristics which make them anything but easy to handle after they are caught.

Their decidedly strong musk, plus their ability to use it in self defense has been the basis for countless jokes and dramatic newspaper stories. But for the trapper it poses a distinct problem. As a matter of fact, there are three problems!

First comes the matter of dispatching a trapped skunk. Second, we have the question of just how to go about taking the furbearer along home. And third, we are faced with the job of skinning the animal.



The two most practical methods for killing trapped skunks are shooting or drowning. For shooting, the trapper should use a .22 calibre rifle or revolver loaded with .22 shorts. And since any trapped animal should be shot through the head, it is important that the trapper move as close to the target as possible.

Comparatively speaking, a skunk has a rather small head; and this, plus the fact that they have a tendency to move their head up and down or from side to side, means that the trapper should not only move close, but must be patient and aim accurately.

The importance of getting close and taking careful aim cannot be stressed too often. It is perhaps unfortunate that many novice trappers are lead astray from this important matter by false stories. In order to be as humane as possible, and also to save the pelt from being damaged

by carelessly fired bullets, the trapper should take a more serious attitude and adhere to suggestions from experienced trappers. When we speak about going close to a trapped skunk we mean about ten feet or less when using a rifle. Six feet would be much better when using a revolver.

Although it is true that a skunk can throw or squirt its musk for a distance of ten or twelve feet, it is not true that they do so for no reason at all. They squirt their musk only when they are molested; or when they are very suddenly surprised. For this reason then, a trapper should approach a trapped skunk slowly, and making certain that the animal is aware of your presence, walk directly toward it. When the skunk happens to turn and raise its tail in defiance, the trapper should pause and remain quiet for a few moments until the animal again relaxes its defiant attitude; and in this manner proceed towards the skunk until you feel that you are close enough to dispatch it with one perfectly placed bullet.

Frequently one will find a trapped skunk which appears to be abnormally restless, and for some reason insists on hopping or crawling back and forth, making it quite difficult to place an accurate shot. In such cases the trapper will do well to remember that the more he moves about in order to get a good aiming position, the more confused the animal will become. It is not uncommon for skunks to become trigger happy in such instances; and therefore it is good to know that skunks can also be shot through the side of the head. In other words, a skunk does not necessarily have to be shot between the eyes. The best idea is for the trapper to remain in one position and watch for a chance to shoot between the eyes or through the side of the head. Sooner or later the animal will remain quiet long enough for a clean shot one way or the other.

Drowning a skunk is perhaps the least odoriferous way of killing one, but naturally this is possible only when water is nearby. When skunk traps are set near water, it is a good idea to anchor traps to a long pole. The trap is fastened with wire to one end of the pole; and in this way, when a skunk is caught, it can be carried without trouble to a stream and drowned. In order to drown a skunk properly in this manner, the water must be deep enough so that the catch can be completely submerged. Do not attempt to drown a trapped skunk in less than ten inches of water unless you are experienced in this sort of thing.

Another point is that when there are no obstructions in your way, such as in an open field along a stream, the animal can be lead to the water rather than carried. This should be done slowly giving the animal a chance to walk. Do not drag it.

The next question is how to get the skunk home without too much annoyance from the strong odor. During cold weather some trappers make a practice of hanging the recently killed skunk on a tree limb, out of reach from prowling dogs, where it will remain until the next day. By the next day much of the strong odor will have vanished, thus making the task of carrying it home more enjoyable.

This practice is not always possible, however, and in order to be able to take the catch along home the same day one can place it into a paper bag such as empty flour bags or other strong paper bags. For the trapper who is not too particular a burlap bag will serve the same purpose, but more odor will exude from such bags since they are not as tight as paper bags.

Then too there are many trappers who tie a string such as binder twine to the hind feet, and with this method a skunk can be carried along

easily without getting much skunk musk on your hands.

The most important thing is to avoid getting skunk musk on your hands or clothes. Although much of the odor can be removed from hands by using various liquids manufactured for the purpose of removing such odors; or by using turpentine, it is not easy to remove skunk musk from clothes.

Naturally the best place to skin a skunk is out in the open where there is plenty of fresh air. A tree with a low limb on which to hang the skunk while skinning, or some other place where the circulation of fresh air is not retarded should be selected. Unless you don't mind the skunk musk odor, do not select a place where a wall of a building will act as a reflector which will constantly keep the odor circulating towards you.

A skunk can be hung up by its tail by using a small wire hook attached to a short length of rope or light chain with a swivel. Next, by using a sharp skinning knife a slit is made from the heel of each hind foot to the base of the tail. In this, care must be taken so as not to cut into the musk sacs. The best way is to try and make a cut by keeping the point of the knife just under the skin. Next a cut is made horizontally directly below the easily recognized scent or musk sacs from one of the first cuts to the other. It is not necessary to skin that part which covers the musk sacs since it has no fur value, and reduces the danger of cutting into the musk sacs.

When these three cuts are made, the skunk is then hung up by its hind feet, one foot at a time. In other words, the animal is hung up by one foot, then the pelt is skinned down as far as it will go. The same procedure is followed with the other foot. This done, the animal is hung by both feet in which position it will remain until completely skinned.

To skin out the tail, a slit is made the full length on the underside. With a little cutting from time to time the tail bone can be easily removed in this way. Skinning is then completed by pulling on the pelts and making careful cuts.

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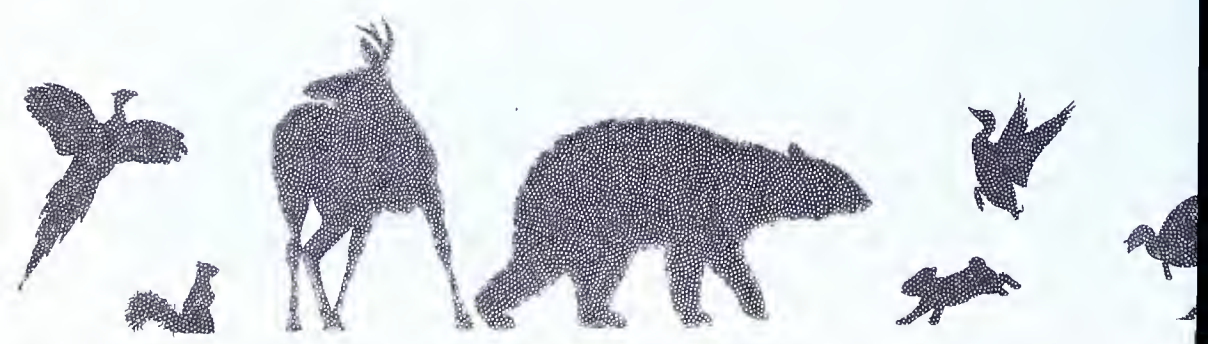
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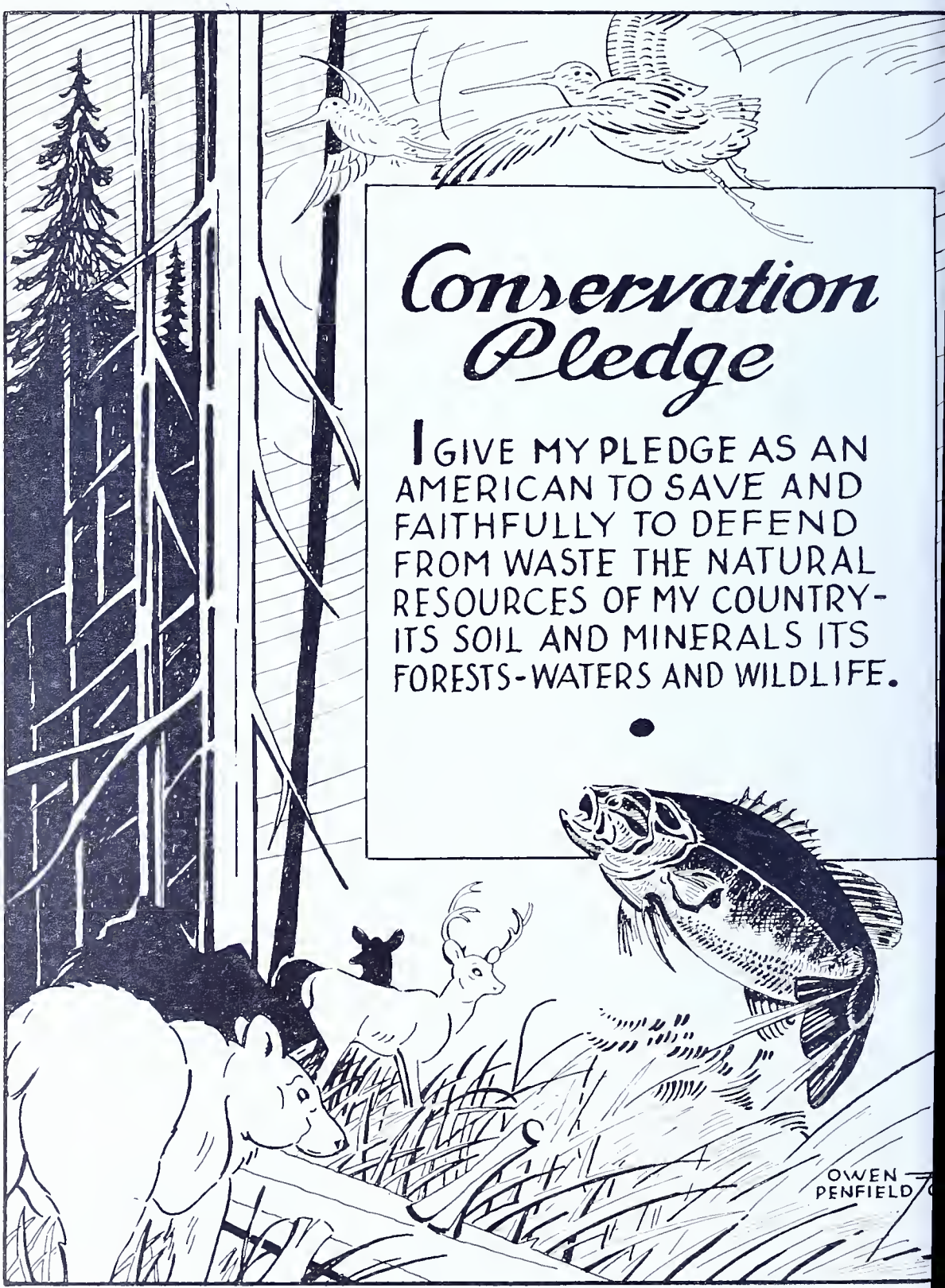
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Game News

UGUST, 1955

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THE STORY BEHIND THE COVER

OF all the misnomers used in describing birds, probably none is more common and wrong than "chicken hawk." Yet that is the name applied by too many people in naming the big hawk so beautifully and accurately portrayed by Dr. Poole on this month's cover.

True, the red-tailed hawk, correctly named for obvious reasons, can be linked to chickens in fact as well as fancy. It is often seen soaring over poultry farms and, given the opportunity, may attack and eat a chicken. But any idea that the common name comes from a regular habit of dining on drumsticks and white meat is far from the truth. Actually, this bird might be more appropriately called the "mouse hawk" since the bulk of its diet consists of these small rodents. In winter the red-tail consumes thousands upon thousands of meadow mice, the most destructive rodent and the most abundant mammal on our continent.

Here is a bird, second largest of the Buteos, that is regal in appearance and majestic in flight. With motionless wings spanning a good four feet, it often soars in ever widening circles, gliding higher and higher into the wild blue yonder until it becomes a mere speck in the sky. One observer watched a red-tailed hawk sail continuously without once alighting from seven o'clock in the morning until four o'clock in the afternoon. And yet, contrary to popular belief, the bird is usually not hunting during these periods of sailing the sky-waves. When hungry, the red-tail generally sits rather than soars. Motionless, it perches on a dead tree, elevated crag or similar observation post, watching for its prey to show itself. Then silently and suddenly it plummets earthward and strikes.

In springtime, the whistling scream of the red-tailed hawk is one of the most characteristic and interesting sounds of the countryside. By early March the parent hawks are busy building a bulky nest of twigs and limbs some 50 to 80 feet up in the tall timber. The two or three eggs are laid a month later. Incubation lasts about 28 days and the downy fledglings remain in their tree-top nursery for a month or more.

For the ornithologist and for the true sportsmen, the sight of a red-tailed hawk soaring high and mighty is a welcome addition to the world outdoors. And for the serious student of the relationships between things wild and free, the legal protection given this great bird in Pennsylvania is fully justified and most deserved.

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Editorial . . .

Vacation Values

DURING no time of the year is the outdoor interest of Americans more in evidence than in the "good old summertime." From every city and town, from offices and factories, mansions and shanties the people of an industrious nation cram the highways and byways of their native land seeking rest and relaxation. "Having a wonderful time" has become almost a national slogan in summer. Annual vacations, weekend outings or family picnics attract people everywhere to a change in scenery, pace and perspective.

The recreational benefits which accompany this great human migration "away from home" have long been recognized and appreciated. Fresh air and sunshine are physical and mental stimulants second to none. Over the years a multi-million dollar industry has been built around American vacations. It beckons both rich and poor. From tent site to deluxe hotel there are outdoor accommodations for everyone, the kind desired depending only on what the vacationist wants to spend.

More recently, the nation's economists have begun to realize how important outdoor recreation really is. Although the "tourist" has been a time-honored tonic to many a business and industry, the total effect of his holiday expenditures have been only recently measured. The width and depth of the cash register smiles he has left behind have come as a pleasant, profitable surprise to American economy.

But often overlooked in this recreational and economic phenomenon are the basic ingredients which cause it in the first place. Clean waters for swimming, fish and boating; green forests for successful camping and hiking; rich soils to produce food suitable for vacation appetites; and abundant wildlife for natural beauty, sport and study—all these are basic essentials of any vacation.

Conservationists, no matter when they were born, can be made in the summertime. From now through autumn more Americans are closer to the natural wealth of their country than in any other season. Certainly an awareness of our great outdoor heritage, of the natural beauty and scenic wonders of our land is evidenced by the mass urge to leave modern living behind—to get back to nature.

But more than awareness, we need to obtain a deeper appreciation and finally to take courageous action in order that these basic things upon which vacations are built may be safeguarded and perpetuated. The future of outdoor fun depends on the wise use and care of our natural resources—waters, soils, forests and wildlife!



I'm Your New Puppy

As Interpreted by Charles H. Hopkins for Doc, Jr.

Illustrated by Madeline Marabelle

YES, I'm your your new puppy, just like it says here on the paper. Because I have trouble sometimes making myself understood, I have asked my ex-boss's secretary to write out what I have to say.

I guess I wouldn't be here today if Logan Bennett and Charley Hopkins hadn't run across each other one day about five years ago. They were attending a convention, but took time out for a talkfest about bird dogs. They found they had a lot in common. Both of them have English setters—like me—and both have the same ideas about dog training.

Because he has lived in the East for so many years, Logan is chiefly interested in grouse and woodcock dogs. Charley used his dogs chiefly

on bobwhite quail, but he told Logan that smaller fields and greatly reduced habitat are changing the requirements for a good quail dog.

Good quail dogs nowadays, he said, must have lots of speed, but they also must have the brains to hunt out all the cover on a given course, instead of high-tailing it over the hill and keeping on going in a straight line.

Logan then told Charley he didn't see why grouse and woodcock dogs wouldn't make good quail dogs under present conditions, especially since bobwhite quail are spending more and more of their time in the woods. Logan invited Charley to hunt behind old Queen, matriarch of his strain of setters, and Charley agreed. They got together in Michigan in the Fall of 1951.

The upshot of it was that Logan made Charley a present of Sis, Queen's 5-months-old grand-daughter. Even at that age, she was something of a celebrity. A man named Bob Becker took two columns in a paper called the Chicago Tribune to tell how Sis "stole the show" on a hunt in Wisconsin. Sis pointed and retrieved the first woodcock she ever saw, and then went on from there. Charley eventually brought her home and introduced her to his setter dog Doc, who was something of an infant prodigy in his own right, many years ago.

Doc. like Logan Bennett's Sis, could point to more than 20 years of selective breeding in his immediate an-





cestry. Charley had met Tom Shipley, a setter fancier of the old school, on a hunting trip in southern Missouri. Just as Queen was Logan Bennett's pride and joy, so was Ship's Patricia. She was more than 10 years old when Charley first saw her, but the way she could handle those Missouri quail in timbered country was something to write home about.

Charley told Tom Shipley that if he ever had a couple of puppies he would part with just to send them along. He had made up his mind that any setter with the prefix "Ship's" in his name would be a bang-up quail dog. Early in 1941, Tom Shipley told Charley he had a couple of pups he could spare, and agreed to train them according to his own ideas. Charley agreed.

Charley hunted over Doc, and his litter brother, Lou, for the first time on Pearl Harbor Day, December 7, 1941. Doc and Lou were eight months old at the time. They were not only finished bird dogs, but each one retrieved a "long fall" from more than a quarter of a mile. This made a great hit with Charley, who always says that hunters walk away from a lot of body-shot birds that merely fly away to die.

With a war going on, Charley didn't have much time for quail hunting. So he turned Doc over to the Western-Winchester Game Farm to be used in checking game areas. When the war ended, Charley figured out that Doc had made more than 5,000 covey points on quail—an average of a thousand covey points a year. He had run this total up to more than 6,000 covey points when Charley brought Sis home in 1951.

By this time, you have probably guessed that Sis was my dam and Doc was my sire. It wasn't easy for them to have a family. Doc was willing, but a meddlesome old busybody that Charley calls Dame Nature kept messing things up as far as Sis was concerned.

Doc died on June 15, 1953, before I was whelped. But on July 2, just two weeks later, Sis came through with as fine a litter as you ever saw. There were ten of us to begin with, but only eight of us lived. Charley always said it was because Sis only had eight spigots, so the two weakest pups didn't get enough to eat.

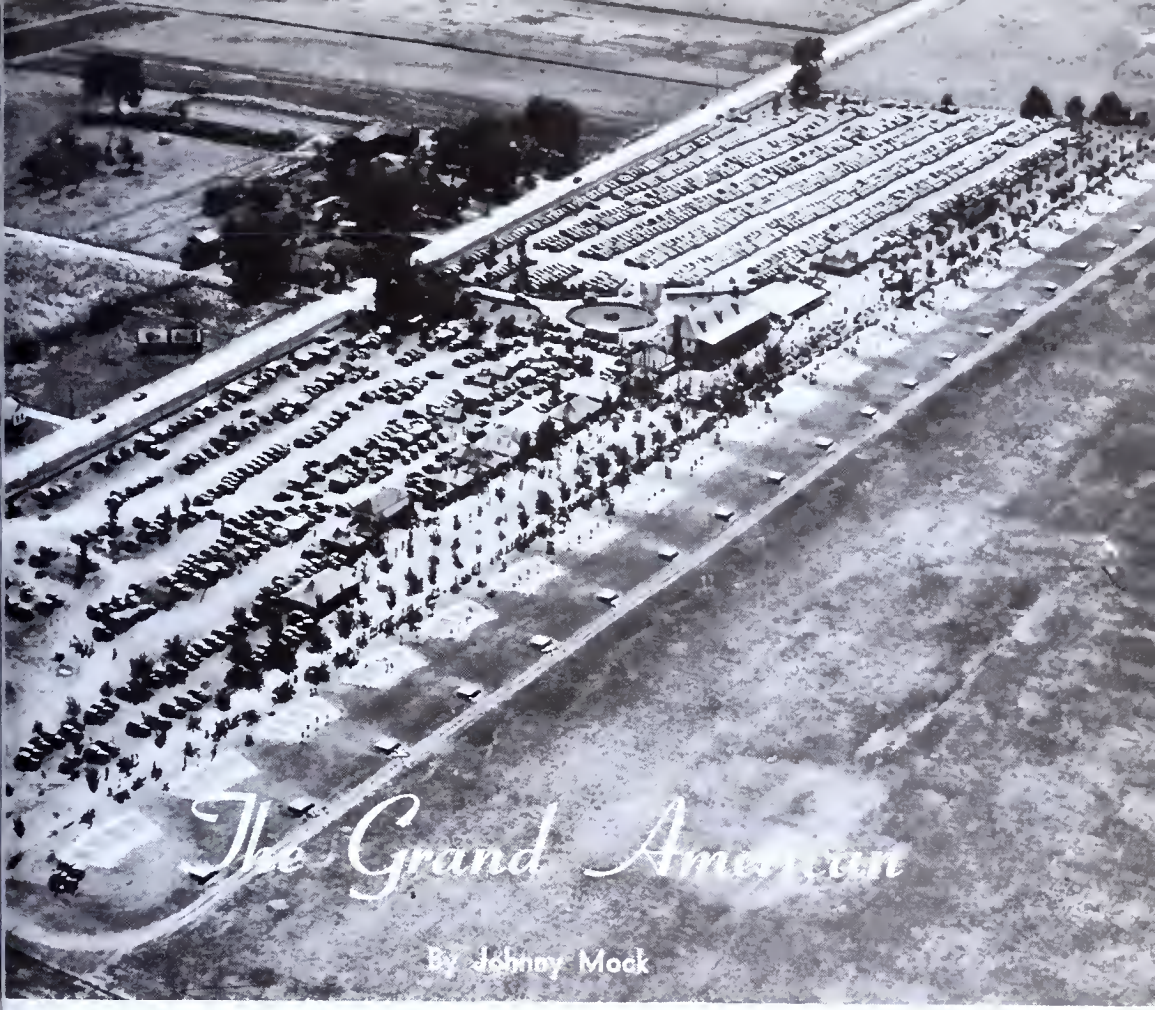
Well, that just about winds up my little story about Logan Bennett's and Charley Hopkins' "dream litter." The rest is up to you. There never will be another like it, Charley says, because he is sending Sis back to Logan Bennett to take old Queen's place. In case you haven't heard, old Queen was run over and killed by an automobile early this year.

In closing, Charley asked me to tell you that I never will be a really big dog, as both Doc and Sis were field-type dogs. I may fill out some, but I'm about as tall now as I'll ever get. I've learned to get along in summer time on a standard dog chow, fed dry, with cooked meat only about twice a week. In the Fall and Winter, of course, I'll need more meat, so as to have something to go on.

Bet you wonder where I ever learned all the words—especially the ten-dollar ones—I've used in this letter. Here's the secret. I've been staying down at Festus, Missouri—Logan Bennett's old home town—with a friend of Charley's named Sam Sparks. Sam has two school teachers in his immediate family—so what else would you expect?

Yours with Tail-Wags,

YOUR NEW PUPPY



The Grand American

By Johnny Mock

Photo Courtesy Mayfield Studio, Dayton

THIS month, at a tiny community in western Ohio, the scattergunners of the continent will gather to compete in the greatest of all shooting classics, the Grand American.

Vandalia is the mecca of this army of shotgun enthusiasts, permanent home of the Amateur Trapshooting Association, governing body of the sport.

Hundreds of entries will take part, coming from practically every State in the Union, several Provinces of Canada, the Canal Zone, Alaska and Cuba.

Followers of trapshooting from all walks of life—men, women and mere children—rich and poor, young and old, weak and strong, even the maimed will shoulder a scattergun, call for the elusive clay targets, press the trigger and hope that fate will smile upon them.

Day after day the tourney goes on, with a monotonous and seemingly neverending cry of "Pull!" followed by the announcement of the referee. Invariably, the cry is "Dead!" for there will be assembled the cream of the continent's trapshooters, who will vie with each other for the numerous crowns at stake.

It cannot be said that the ATA is economical with its titles for the coming classic will list over 40 championships to individuals and teams.

More than a million shotgun shells will be expended by those who participate. When one takes into consideration that each of these shotgun shells has one and one-eighth ounces of shot in it, it can readily be realized that more than 40 tons of lead will be deposited on the sod beyond the traphouses, quite a contrast to the status of the land prior to being acquired by the ATA. In the past, the present location produced an annual

crop of corn and oats. Now the former fields account for a harvest of metal—and "dark horses!"

Trapshooting is one of the more ancient sports when compared with present-day recreations. Its name was derived from the fact that in its earlier days live birds were imprisoned in traps and then fired upon when released at the call of the gunner.

The exact time and place of origin has been lost in antiquity, but various authorities agree that it had its beginning around 1750. However, the first attempt to put it on an organized basis—on the other side of the Atlantic—did not occur until 1810.

First mention of the shooting of trapped birds in this country goes back to 1831, at the Sportsmen's Club, Cincinnati, Ohio.

As conducted today, there is little difference in the conduction of the sport. The principal changes during the almost 125 years of its popularity is that "clay" targets have replaced the live birds and keeping up with the change in the times, mechanical devices have been introduced to liberate the "birds," as well as to give them artificial flight.

History tells us that George Ligowsky of Cincinnati was the man who invented what eventually developed into the target which is used today, as well as the "trap" used to put the target "on wing." It is presumed this happened sometime around 1870.

Others soon joined in adding new innovations. One, an Englishman named McClasky came forth with a target made of pitch and sand, which became known as a "blue rock." He is also credited with the introduction of a trap known as the "Expert." Today, both names remain as familiar terms in the glossary of the sport.

Greatest strides in bringing trapshooting to its current popularity has been made in the mechanical operations. When competitive events came in favor it required a "puller" to release the trap. Another in the house to load it, a referee and a scorer. At the 1951 "Grand American" one person served in the capacity of a "puller," referee and scorer, made possible with the advancement of mechanical devices operated by electricity—setting the trap and springing it.

Eventually, it is believed, even the boy in the traphouse, who places the target upon the trap, will be eliminated. This is far from a dream, such a device having been in use for a number of years, but not on a scale such as that which is encountered at Vandalia.

As many of the Pennsylvania GAME NEWS readers know, the 12-gauge shotgun is the standard firearm. The ATA rules require the use of No. 7½ or No. 8 shot, loaded no heavier than with three drams of powder. The pellets are restricted to one and one-eighth ounces. Copperized shot is not permitted. To avoid any violations, all shooters obtain their ammunition at a designated location.

Three types of events have been adopted for competition—singles, in which the targets are shot at from "scratch" position, or the 16-yard line. Handicap, in which the shooter is penalized according to his ability, ranging from the 17-yard to the 25-yard markers. Doubles, fired from the 16-yard line, in which two targets are released simultaneously, one to the right, the other to the left.

All shooting, in the three events, is done from five positions, firing five shots from each. The resultant 25 shots are called an "event." At the 16-yard marker the competitors stand three feet apart. In handicap, shooters are moved backward from the scratch location, gradually fanning away from each other as the extreme marker is reached at the 25-yard line.

The target, in singles and doubles, emerges from the traphouse at 16 yards from the shooter. A regulation target travels at about 50 yards per

second when it makes its appearance. By the time the trigger is pulled the target has flown from 35 to 40 yards. Skilled trapshooters, however, usually shatter their targets at distances from 32 to 35 yards.

Most popular among the shotguns are the narrow-alignment types—single barrel, over and under and pump or slide action. Double-barrels, except for the twin target event, have never reached the point of popularity due to the broader sighting plane which has a tendency to reduce the possibility of accurate gun-pointing.

Recent years have brought about a gradual departure from both the single and double-barreled types, the preference being for what is ordinarily used as a field gun, the repeater. Many believe this trend will continue. The auto-loading, or so-called automatics are growing in popularity.

Contributing to this trend is the legalizing of the auto-loader by such states as Pennsylvania which now permits the hunting of small game and vermin with this type weapon.

For years the No. 7½ shot was the accepted charge. In late years many of the shooters have been won over to the No. 8 and for a good reason. The first-mentioned has approximately 394 pellets to the charge, whereas the No. 8 pellets will number 461 and the difference may account for many an additional target as broken, rather than being lost or missed.

Practically all trapshooters resort to the full-choked barrel which places 70 per cent or more of the shot in a 30-inch circle at 40 yards. On the basis of that percentage the No. 7½ would number 276 in that area, as against the 323 of the No. 8's, giving the shooter the advantage of 47 more pellets.

TOP FIVE-MAN TEAM during 1954 tournament was from Pennsylvania, scoring 984 out of a possible 1000. Members of the squad and their scores: left to right, Walter Penrose, West Chester, 192; George Newmaster, Lebanon, 198; E. A. Ross, Uniontown, 200; Robert Smith, Smithfield, 198; and H. T. Horst, Reading, 196.

Photo Courtesy Mayfield Studio, Dayton





KEYSTONE STATE IS TOPS in number of registered targets shot, fourth in number of registered individuals in Amateur Trapshooting Association membership.

There is some difference in the velocity, about two per cent more speed for the No. 7's, in comparison with the No. 8's, over ordinary trapshooting distances. The variation is so small, however, and of such little consequence that few shooters take it into consideration.

What it actually amounts to is a choice by the shooter as to whether he prefers the slightly lighter velocity and individual pellet energy of the No. 7½, or the denser and slightly slower pattern of the No. 8 pellets.

Almost the same thing is coming true with the powder charge, many shooters going from the three-dram load to two and three-quarter drams. The average velocity over 40 yards, in a 30-inch full-choke barrel differs only 30 feet per second, that of the three-dram load being 870 feet per second while the lighter load—and slightly less kick—gives a velocity of 840 feet per second.

When it comes to being critical and squeamish, there is no group which is more so than the clay target smasher—the gun must fit just so, for upon it can depend the hit or miss of a target. The loss of just one of those flying saucers can mean the difference of several thousand dollars.

The stock must be of the correct measurement; the barrel must be of the right length; the comb must be of a certain height; the heel must meet definite specifications. Too short, the stock can easily result in injury. Improper fit can readily produce a result similar to grasping a mule by the tail.

One shooter may prefer a Monte Carlo stock; another, a short pistol grip, while the third will choose the old-fashioned straight stock. Each has his own particular preference which will give him or her a comfortable stance in which the gun, hands, arms, shoulders and head are joined together in a single unit, the perfect combination with which to smash the elusive "bird."

The competition at the "Grand American," as may be expected, is terrific. For instance, the North Amer-

ican Clay Target Championship. This event of 200 targets was placed on a permanent basis in 1919. Since that time the annual champions have missed but 25 targets, giving them the rather impressive combined score of 6775 out of a possible 6800 targets.

Another impressive race is that of the Champion of Champions, in which the various state champions compete with each other. During the past 12 years those champions failed to post perfect marks in but four instances, giving them a record of 1196 out of a possible 1200.

Even more remarkable was the record established during this event in 1951 when five state champions smashed 100 targets in the main event, then broke another 100 successive targets in the shoot-off, for a score of 1000 out of a possible 1000. Incidentally, the winner of the event was compelled to shatter another 60 successive targets before he wound up on top, making it 260 straight to take home the bacon.

Other remarkable scores have been chalked up at the "Grand American," several of which have been standing for a number of years. For instance, that of Joe Hiestand of Hillsboro, Ohio. During the 1938 classic Joe broke 900 out of 900. In following registered shoots he added to his string of successively-broken targets, running it up to a total of 1179, world's long run record.

More outstanding is the feat of Walter Beaver of Berwyn, Pa. During the 55 years in which the Grand American Handicap event has been in competition, 47,360 gunners toed the various handicap markers, but Walter is the only one ever able to capture trapsdom's most coveted title and richest prize while stationed at the extreme yardage marker, the 25 yard line, breaking 98 out of his 100 targets. Incidentally, during all of its years of competition, the Grand American Handicap has been won only five times with a perfect score of 100.

CLAY TARGET SHOOTERS are extremely critical of their weapons. Stock, barrel, comb and heel must meet definite specifications. Those who shoot entire program at Grand American absorb a shock of 44,200 pounds.



Pennsylvania stands fourth in the number of registered individuals in the Amateur Trapshooting Association membership, being exceeded by Ohio, Indiana and Michigan, but in the number of registered targets shot, the Keysone State tops them all.

Greatest local hotbed among the trapshooters is the Pittsburgh area where the shooters of the Western Pennsylvania Trapshooters' League and other organizations shooting registered targets account for more of these "birds" than any other section of the country.

Few persons have any idea of the terrific pounding a trapshooter takes throughout the tournament. Assuming he or she participates in the entire program—and hundreds do—a total of 1700 targets will have been fired at. The recoil of each shell is said to be equal to 26 pounds being dropped one foot, foot-pounds being the ballistic term. Those who shoot all of the events will have absorbed a shock of 44,200 pounds.

The "Tented City" on the ATA grounds is an interesting institution. In it are found shooters and in some instances, their families, from every section of the country, comfortably provided for. Others use the more elaborate trailers.

In the old days many of the shooters prepared their own meals, particularly breakfast, with the delightful aroma of frying bacon and eggs and boiling coffee being wafted about the grounds. Today, only those in trailers perform this task and that rather infrequently. It is much easier to drop in on the ATA cafeteria which serves excellent meals at reasonable cost from early morning until late evening.

"Industry Row" is another tented feature where the visitor may have a gun repaired; be fitted for a pair of shooting glasses; acquire a shell case; choose a gun stock or have a recoil pad attached. At the headquarters of the various firearms concerns one can get the feel of the newer models. The latter concerns supply comfortable chiars in which to relax and watch the colorful crowd passing to and from, await the call to proceed to the firing line, or to hold a post mortem with fellow shooters on just how that "bird" was missed.

The representatives of these concerns, "pros," as they are termed, act as hosts, counselors and in other capacities to make the scattergunners feel at home.

Here is truly Americana, with its thrills, joys, pleasures, sorrows and disappointments. As one prominent shooter put it—"Fame beckons you one moment, then turns its back to you, all within a matter of seconds." Here a squad, which is made up of five competitors, may include a Texas oil baron, a Pennsylvania coal miner, a Florida high school girl, an Ohio truck driver and a California preacher. Many squads will have among them youngsters of tender age, grizzled old veterans—mothers and fathers, big shooters and little shooters, some with the cry of "PULL!" like that of the bellow of an ox, others with a squeak no louder than that of a mouse.

At the "Grand" you'll find America as it actually is, a democracy, where the blue bloods get no more recognition than those in whose veins flows the rich, red blood of the grandest and greatest nation in the whole wide world; where a shattered target is "Dead!" and a missed target is "Lost!" regardless of who pulled the trigger.



Just A Memory

By Paul A. Matthews

Illustrated by Don Stevenson

THE Pennsylvania woodlands were clothed with countless leaves of brilliant green, each one of them reaching for the fresh warmth of the early June sun. Ben Holcom sat on a stump in the shaded recesses of Hickory Run, his mind quietly absorbing the sounds of the surrounding woods. The raucous nagging of crows from the top of the cliff on the far side of the gorge betrayed the presence of their nest. Ben could see the dark blotch of twigs high up in a well-branched hemlock.

It wasn't unusual for Ben to sit along the creek this time of the year. Sometimes, he thought, it does a man good to sit in the woods and just look around. He learns to appreciate Nature just a little more, maybe even conserve a little more of it. When a man watches and sees how long it takes Nature to build something, he isn't so eager to destroy it. Like the Old Man said about the wild ginger, "there is a lot of difference between harvesting and destroying." That was a long time ago, Ben thought, but the way the Old Man said it meant something, even to a kid fourteen years old who thought the world never changed.

It wasn't fifty feet from this spot, he recollected, that the Old Man had come upon him working in a bed of wild ginger. Ben had two empty bushel baskets with him that day, or at least they had been empty when he started. The first one had been filled back down the creek a piece and he had a pretty good start on the second one, when, hearing a noise from behind him, he turned to see the Old Man.

"Hyar, Ben."

Ben slapped a mosquito from his forearm. "Hi."

"Diggin' ginger, huh?"

"Yeah. I gotta earn a little extra money this summer. I want to buy a shotgun before hunting season, and that fellow that owns the drug store in town told Mom he'd sell my wild ginger for me if I cleaned and dried it."

"I see you dug one patch of it out back there a piece," the Old Man commented wryly as he stuffed some tobacco in the blackened bowl of his pipe.

"Yep. I got a whole bushel out of just that one bed."

"What are you going to do next year when you want some more ginger?"

"I'll probably have to find another patch of it. There's lots of it all along the creek."

"Hmmm." The Old Man bent over and struck a match against a stone and then applied it to his pipe, sending a cloud of blue smoke swirling around his head. "Don't you suppose that year after year you will soon dig up all the ginger there is along the creek?"

"There's lots of it. I'll never get it all dug up."

"Do you know what ginseng looks like, Ben?"

Very thoughtfully Ben admitted that he didn't.

"You probably never will either, unless you go with me some day and I'll show you some. When I was a young fellow, there was lots of 'seng in the woods and a whole bunch of us wanted extra money, just like you do, so we hunted and dug ginseng every year. Now the only place you'll find any—is where I've seeded it down myself in the fall years ago."

Ben's trowel hesitated in the last corner of the patch. In his mind he counted out the various patches of ginger that he knew grew farther up the creek and there were probably lots more patches that he didn't know about. The Old Man was right about most things, but this was one time when Ben felt sure of himself. He plunged the trowel into the black earth, loosened it, and pulled the pencil-like roots free as they ran just a few inches beneath the surface. The Old Man didn't say a word as Ben went about his work pulling the roots from the ground until there was no sign of a ginger bed left. He sat squatted on his heels, sucking on the pipe stem and blowing blue clouds of smoke at the mosquitos that dared venture close enough. Ben packed the last of the roots in the basket and then backed against a beech nut and surveyed the round patch of clear dirt.

"A patch of clear dirt in the woods looks funny, doesn't it Ben? It looks as though something was missing, something that belongs there is gone."

"Yeah." Ben admitted. It did look odd. The rest of the woods so full and green and this one spot bare.

"It reminds me of a corner of a field that we had on our farm. It was a corner right next to the woods



and there wasn't so much as a stem of timothy growing there." The Old Man stretched out on the leaves and commenced to scrape the inside of his pipe with a jacknife. "Of course my father was alive then and one day I asked him how come nothing grew in that one corner and I never forgot what he told me. He said, 'Son, in that one corner I helped exterminate some birds that at one time ranged over this part of the country by the millions. We called 'em passenger pigeons. There was so many of them that when they migrated, they darkened the sky, an' we thought there would never be an end to them. I've killed thousands of them, but you'll never kill one.' Think of that, Ben! My dad killed thousands of those pigeons."

Ben smiled and lowered his face. The Old Man was laying it on pretty thick, he thought.

"That one corner was where my dad had a net set for the birds. He had four poles drove in the ground, and this net, about twenty feet square, was fastened to the tops of these poles with a piece of light rope tied in a slip knot. The sides of the net was weighted so it would fall fast, and after staking out a pigeon, a stool pigeon they called it, my dad would scatter feed on the ground under the net and then go back in the woods where he could watch it. It didn't take long for three or four dozen birds to get under there and then he dropped the net. Can you imagine using a trap in one spot for so long that it was bare like a chicken yard?"

Ben shook his head in disbelief.

"When my dad told me about that, I couldnt' believe him. But where they really slaughtered the birds was in the nesting grounds. Dad said that he had seen thirty and forty nests in one tree. He raided these nests for the young birds."

"What could your dad do with all the birds?"

"Well, the young ones, they smoked and ate. The big ones, Dad said he fed to the hogs and even used for fertilizer. That's how many he killed, enough to fertilize his farm with."

Ben's eyes blinked with astonishment and he stared at the Old Man, but the Old Man was telling the truth. He knew it.

"But pigeons aren't like wild ginger. This stuff grows up from the roots. The creek is full of it."

"The pigeons grew up from eggs too, Ben," the Old Man said quietly. "As long as we had the eggs, we had pigeons, and as long as you leave a few roots in the ground, you're going to have ginger. There is a lot of difference between harvesting and destroying. When you harvest, you put back some seed. When you destroy, you have a bare spot of ground where nothing grows for years, or maybe just a memory to tell your kids about like my dad told me."

Ben took the trowel and dug aimlessly in the dirt. Maybe he could spare a few roots. "How big were those pigeons?"

The Old Man refilled his pipe. "Maybe fifteen, sixteen inches long. Bigger than a mourning dove and a lot the same color. They would have had a good livin' here today with all the beech-nuts, acorns, berries, and probably corn or wheat now and then."

"I bet they were fun to hunt."

"Dad said they were. Even when he was a boy, he said that grand-dad would take him to the nesting trees with their old muzzle loaders. They would get all set and then grand-dad would make a noise, flushing all the birds at once. Then he'd holler to dad, 'Shoot, Ivan, heaven's full of pigeons'!"

Ben laughed and stuck one of the roots back in the ground, careful to cover it with dirt. He thought he saw the Old Man grin just a bit, but maybe it was the way he clinched his pipe between his teeth.



BEE HUNTER SPARE THAT TREE! Sometimes bee trees are inhabited year after year, will provide annual crop of honey if left standing.

Bee Tree Trails

By Don Shiner.

HUNTERS afield occasionally come upon an old tree that has been torn apart by black bears. Close examination of the trunk discloses an old bee tree which a bruin ripped apart to secure the sweet honey that was stored within the hollow cavity. Though bees swarmed angerly about the poacher, they did little harm to the bear. Except for the vulnerable spot on its nose, the thick hide of the bear is perfect armor against bee stings. In its eagerness to taste the sweet nectar, the bruin tore the tree apart and consumed the honey, much of the comb and some of the bees themselves.

Bears, however, are not the only woodland travelers who delight in finding bee trees. Many sportsmen do also. During weekends when they go afield endeavoring to locate wild turkeys, or learn of the plentifulness of grouse or deer in the spring, many are delighted to find a bee tree. It gives them an opportunity to collect a hive of bees for themselves and to enjoy some of the honey collected from the wild flowers that grow in the forests. Some claim that bee hunting is comparable in fun to hunting mushrooms, blueberries or ginseng.

Contrary to general belief, bee trees are not at all uncommon in the hills and woodlands of Pennsylvania. Many farmers throughout the state keep bees and each year three and four swarms appear from each of their

hives. Swarming is the natural method for bees to increase their colonies. With the queen laying thousands of eggs, groups of bees assemble into a proposed colony and leave the hive in search of new quarters during the spring and summer months. Sometimes swarms do not go far from the original hive, but settle upon nearby limbs. The owner then reclaims the colonies by cutting the tree branches, carrying the bee clusters back to a new hive and introducing them to the new homes. With a bit of comb fitted to a frame, the bees are encouraged to stay and immediately set up housekeeping.

Just as frequently, however, the bee swarm departs to some unknown part of the mountain and is a loss to the original owner. Though honey bees have submitted to partial domestication, it is at this time that the call of the wild beckons them to fly to the woodland and there populate a hollow tree just as their ancestors did many years ago.

With so great a number of farm and woodland bees swarming each year, it is not difficult to locate a bee tree. Such an activity provides some of the most interesting off-trail hunting that can be had during spring and summer. Indeed, grandfather often said that locating bee trees can be as challenging as locating the whereabouts of a band of wild turkeys.

Bee hunting held exciting days afield for old-timers, but today tracking bees to their den trees threatens to become a lost art. Old-timers spent many hours searching along the hills and ravines for shallow springs. There they placed small pans or cups of sugar water. In some cases as many as a dozen "sugar licks" were placed at random throughout the area. The bee, like other wildlife, needs water and many would come to the stream daily to collect and carry water to the hive. They soon discovered the sugar water and were certain to bring others from the tree to the site of the sweet liquid.

Feeling assured that the bees had located the bait, the hunter would return to the site a few days later. Finding bees at the liquid, he would study the bee's line of flight. Generally the bees would fly to tree top level, circle about, and then make a straight "bee-line" for their home. The hunter needed only to note the direction of flight and pick some object in line with the course to follow. Walking in that direction, the hunter examined every hollow tree. Sometimes a second cup of sugar water was placed along the line of flight or a bit of honey comb burned to attract more bees and narrow the search to a given tree, but seldom did many days pass before the bee tree was found.

With the consent of the landowner or the landowner taking part in the

HIVES PRODUCE three or four swarms each year. Here the bees cluster around queen on a limb before taking off for another bee tree.





HEAD NET AND GLOVES are first line of defense when handling bees

bee hunting, the bee trees were usually cut down. Occasionally, after boring numerous holes into the trunk to learn the extent of the honey cavity, only portions of the tree were cut and lowered to the ground. Being more vulnerable to attack than the bruins, the wood chopper always wore a head net and gloves and sometimes smoke was used to stupefy the colony in the tree. Though the shock of the fall usually disorganized the colony, hundreds staged a defense around the fallen tree.

The hunter then set about splitting the trunk cavity and searching for the queen. She, being much larger than the worker bees, was found and placed in a small box that was covered with a screen. The bees soon clustered around the queen box and at night fall, the box of bees, honey and honey comb were carried homeward. Placed in a clean hive, the colony was encouraged to become domesticated. As for honey, it is not uncommon to find as much as 400 to 500 pounds of honey in a bee tree and divided between hunter and landowner, it is a sizable reward for both.

The bees gather the honey from the dogwood and laurel blossoms, the sap of sugar maple trees and the many wild flowers that grow in the woodlands. Some say that this honey is the sweetest of any that can be found!! One can hardly imagine the work involved on the part of each bee in gathering this great amount of honey. Though the watery fluid is carried from the flowers to the tree, the fluid must be evaporated until the sweet, tacky residue remains which we know of as honey. This evaporation is a task assigned to various workers who stand at the entrance to the tree or hive, vibrating their wings to cause the air to circulate within. This also air conditions the hive.

Surely there is adventure and a real test in woodlore in locating bee trees. Whether the tree is cut to obtain the colony and honey, or smoke poured into the cavity to dope the bees while a little honey is extracted by the hunter, each is a satisfying outdoor activity. If all the honey is taken from the tree, the colony of bees should be taken to a hive and fed with some honey or sugar water until they can store up a sizable quantity of honey for the winter months. If only a portion of the honey is extracted from the tree, the colony can get along quite well.

Bee hunting is a sport forgotten by many hunters, but one that is most pleasing during the summer months. It is an outdoor activity that is comparable to searching for the pot of gold at the end of the rainbow. Surely this yellow, golden colored nectar found in bee trees is a rich reward for those who become interested in bee hunting.



The Greatest—Ever!

By Bill McCarty

ORCHARD Valley Skylight, owned by Mr. and Mrs. Robert P. Habgood, Jr., of Bradford, won the 1955 Open Pennsylvania Grouse Dog Championship early this spring. He did it over the famous Lamonaville courses near Marienville. And in winning the forty-third renewal of this time-honored title stake, the brilliant young setter, just four years old two days before he was crowned, sent grizzled veterans of the sport into a plunge down memory lane. They had their thinking caps pulled down tighter than a jet pilot's helmet as they compared his race and bird handling ability with the work of former champions. Many wondered aloud if the new champion's performance had not been "the greatest—ever!"

It was that near flawless. It was all but perfect. The Orchard Valley winner drew plaudits from bird dog men from coast to coast. He won everlasting fame for his proud owners when his name was inscribed on that huge hunk of silver, symbolic of the title which he won and won so hard.

A brief run-down on the facts and figures of this stake is proof positive of Skylight's greatness. But that he won it so outstandingly is quite another story, one that focuses the bright spot of appreciation on him from those who are familiar with the past.

Starting in 1913, the Pennsylvania Field Trial Club, which sponsors this annual event, applied to the American Field, the bird dog man's bible, for recognition of this stake as a full-

fledged championship event. Recognition was granted. A setter bitch called Fanny Russell was named the first champion. And ever since, because of its strict adherence to a high standard of performance, the Club's champions have gained the respect and admiration of the entire bird dog world. The title has been handed out sparingly and guardedly. Instructions to the judges are the acme of simplicity, yet very rigid. To start with, only those men who can recognize a champion when they see one are invited to judge this stake. They are told that the Cahoon-Reis standard of championship performance should be their guide in selecting a worthy title winner. If no dog in the field impresses the judges as such, then no dog is named a champion. It's as simple as that.

Unpopular as the negative decisions might sound, the patrons of the event are accustomed to hearing the Secretary entone at the completion of the stake, "The decision of the judges: No Champion Declared." In 43 years of competition, the title has been awarded only 25 times. Percentage-wise, it figures that a dog has met the rigid test devised by the Pennsylvania Field Trial Club only 58% of the time. In other words, when the best grouse dogs in the country gather annually each spring to compete for this coveted award, the owners enter their dogs and the handlers go whistling away fully aware that it's just a shade better than a 50-50 chance that any contestant holds. Suddenly, beating the field as in the ordinary all-age stake, becomes secondary. Winning the championship takes on proportions of the insurmountable. And for all those who might feel that this crown is guarded too stringently, the strong outnumber the weak. Never has there been the slightest doubt about Pennsylvania Champions. Little wonder, then, that the crowd was electrified as they heard the name of Orchard Valley Skylight offered as the 1955 champion. In this case, however, the decision was fully expected.

Skylight was brought to the starting line on Course No. 8 at Lamonaville. It was late afternoon. Aware of this youngster's prowess in the grouse coverts, a huge gallery was on hand. Since all gallery-ites at grouse trials go on shank's mare, there is probably no sport where the gallery works harder and sees less. But many had saved themselves for this one.

Like all other contestants, Skylight and his bracemate were scheduled to go two hours. To the average hunter who is accustomed to seeing his grouse dog go all day on the dawn to dusk patrol, two hours might not seem like the stamina test that it actually is. But then, 500 miles is not much driving in a modern automobile unless, of course, the driver intends to keep pace with the pack at Indianapolis on Memorial Day. By the same token, the two hours that faced Skylight were just as grueling. His training had paced him to give his all for these two big hours. The hunter may rest assured that Skylight and his kind are perfectly capable of adjusting themselves to the all-day gun dog pace—seven days a week.

Here Skylight threw it in his Indianapolis overdrive. He went to work on the toughest pair of courses at Lamonaville—stone-studded gulleys that tend to break the stride and rip the foot pads right off anything but a properly conditioned grouse dog. He went up the hollow with his proud little head stuck high in the air and his tail cracking rhythmically with every stride. If there was a birdy objective in his travels that Skylight missed, we missed seeing it, too. Fifty minutes out and Skylight's bracemate, Skybelle's Brownie, a New York entry and a good grouse dog, tried to match stride with the Orchard Valley speedster but was killed off and lost heart in the attempt.



Photo Courtesy Don Woods

GROUSE TRIAL ACTION gets off to a fast start. Grouse dogs competing at Lamonaville courses near Marienville face a test comparable to that at Grand Junction's National Quail Championships.

It was nearing the hour and a half interval. Skylight was maintaining the blistering pace adopted from the start. He was handling with the ease of a good gun dog—no whistling, no shouting. Not once had he come in from behind. But he hadn't found what he was searching for. Birds were very scarce on these grounds last spring. Then he hit.

Coming across on a quarter wind, Skylight wheeled and went straight into it. Bold as a juvenile delinquent running past an old lady to snatch her purse, Skylight rushed right up to that grouse and threw himself into an intense, stylish point that completely paralyzed the bird. In the last split second of approach, as Skylight's keen nose detected the exact location, his head veered with abrupt suddenness and his right ear flopped over on the dome where it remained while his handler walked in front, kicked Mr. Grouse in the air and fired the blank shot that further proved the champion's manners on game.

Within minutes Skylight was again on point. This time the master showman picked a slight mound of earth on which he planted his front feet firmly, adding all the more to his stature and his style. His bird was accurately located, dead ahead. He stood high, proud and immobile as the grouse winged away. As the shot echoed sharply against the opposite ridge, the gallery smiled approvingly. They knew this was it. He had run like a champion should run. He had handled his game in like fashion. And fired with success at this stage of the game, Skylight made the few minutes remaining on the clock tick fast. He finished the two-hour grind, on the jump, hunting with the same desire that had paid off earlier.

In repose the new champion is decidely white, splattered with a few ticks, and trimmed with the usual black ears. He's neither big, nor little, but built like a "Pennsylvania grouse dog"—a deep chest, a strong angular back line goes in the make-

up of a short coupled body which permits him to move at great speed, shifting stride to gain footing on the rocks and uneven terrain, but never breaking stride, never abusing himself or causing birds to flush wild with brush busting tactics. It was in the bird handling department that Skylight completely swamped this year's field. It was late when Skylight hit his birds. It was almost six o'clock. In all probability, they were feeding birds, and the way he pinned them down was a remarkable demonstration of the grouse trial man's argument that it is the fast bold performer, rather than the slow, cautious type, that can actually pin grouse to the ground and pin them tight. A dog less sure of himself, under the same circumstances, might well have wound up with two blundering stops to flush and the hunter apologizing for his dog because the birds "got up wild." By contrast, Skylight nailed his birds down tight. Any gunner might have walked in front of him, as his handler did, and dumped himself a pair of grouse by substituting a load of number 9's for the blanks that were fired in field trial competition. Any thought that field trial champions are not good gun dogs, Skylight dispelled on the spot. They are the best!

No "Cinderella," Orchard Valley Skylight comes by his talents naturally. He was destined for his reward the day he was whelped. By Double Champion Sam L's Hadaway, out of the home-bred producing matron, Orchard Valley Dicksee, Skylight just happens to be the second grouse champion in history whose sire and whose grandsire, in direct line, were grouse champions. As is generally known, Hadaway is by the setter that set a world's record when he was named a champion six different times, Sam L's Skyhigh. As the prefix suggests, Hadaway and Skyhigh are owned by the man who holds a patent on great grouse dogs, Sam R.

GROUSE DOGS AND GALLERY await starting signal at Pennsylvania course in spring meet several years ago.

Hal H. Harrison Photo



Light of Punxsutawney. Dicksee, Skylight's dam, is by Mobee Dick, a line that goes back to the great Glendale grouse dogs. Since Skyhigh is by Equity and since Dicksee boasts the same blood, Skylight would suggest that class promotes class, regardless of the game bird. Equity earned his laurels on the quail circuit. He was developed by Virgil P. Hawses down in Virginia.

No mention of a champion could possibly be complete without a word about his trainer, the man responsible for the development of his great talents. It's a known fact that no man can get out of a dog what isn't there, but the wrong trainer can soon ruin a good one. In the case of Skylight, Rich Tuttle, the well-known professional who does all his training in the Elk County wilds within a few miles of Johnsonburg along the upper reaches of the Clarion River, gets full credit for an outstanding job. Tuttle has had Skylight since he was a puppy. One mistake and the bird dog public might never have realized the true greatness of the Orchard Valley setter. Obviously, Tuttle made no mistakes. Skylight is a jewel that Rich Tuttle has polished to perfection. But Rich doesn't talk much about Skylight; he talks about his owners. "The Habgoods are the finest people any trainer ever worked for. They know, they understand and they're so patient."

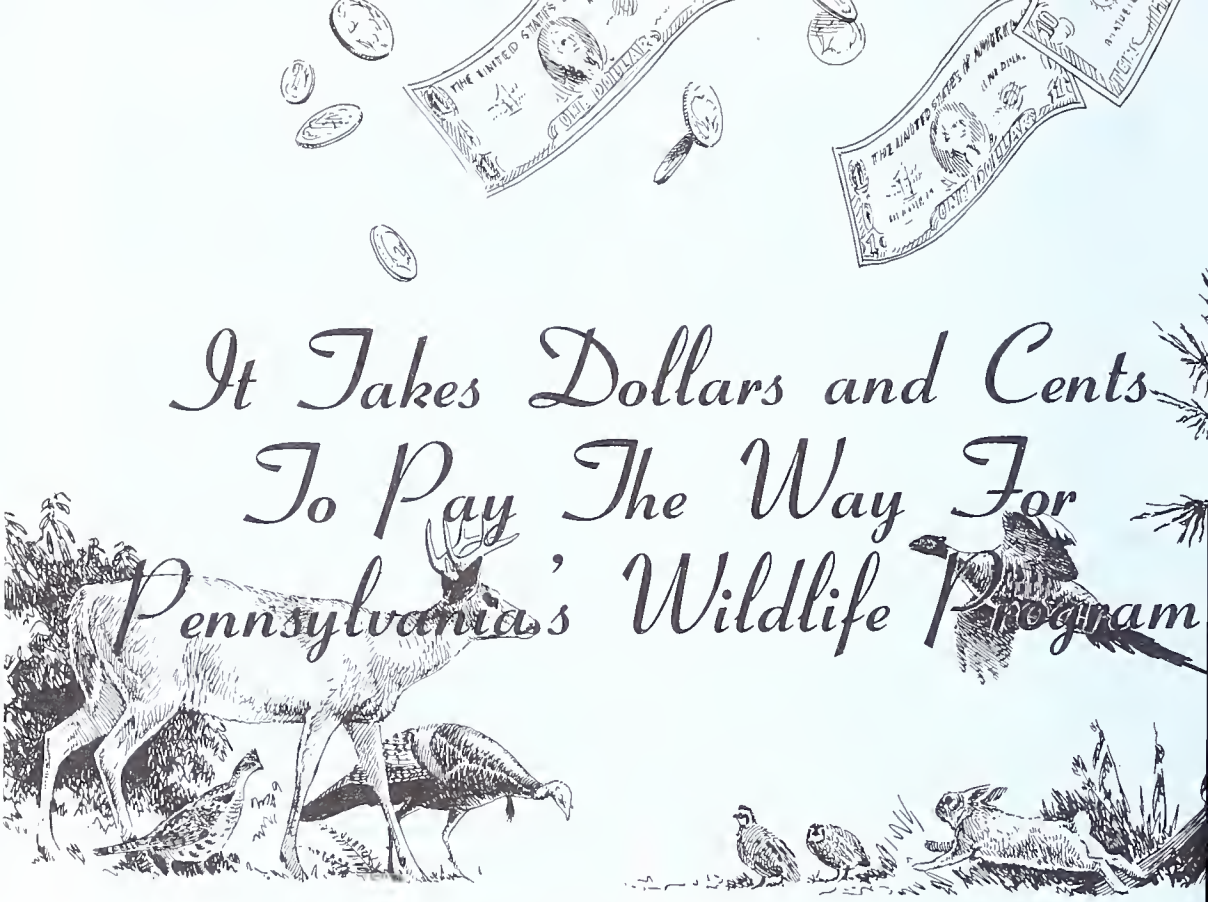
Judges for the championship were George M. Crangle of Waynesboro, Georgia—a veteran professional trainer who has retired after a long and successful career on the quail, chicken and ringneck circuit—and Herman Specht, a Pittsburgher and one of the most respected grouse trial judges in the Keystone state. Mr. Crangle was outspoken in his praise of the Pennsylvania contest. A frequent competitor at Grand Junction, Tennessee where the National Quail Championship is staged, George Crangle volunteered that "two hours over these rocks and rough country is equal to the three hour test down there."

The big question left on Skylight's score card: will he succeed where all others have failed? Many of these champions have come back, many have tried to win the title again, but not one has ever won it twice. Where Fegan's Mohawk Pal, the setter, and two great pointers, Luminary and Ariel, have each won the National Quail Championship three different times, the combination of ability with the factor known as luck have escaped the grouse dog in his attempts to win the Pennsylvania title more than once in one lifetime. Even the illustrious Skyhigh, now retired with his half-dozen titles, can boast the Keystone crown but once although he came close a second and more times.

When asked if Skylight might be retired on the strength of this important win, the Habgoods looked at each other in wild surprise. The Squire of Orchard Valley had this to say: "Reitre him at four. I should say not. We have been breeding setters and campaigning them for 18 long years. Now that we finally have a champion, we'll go right on running him and hope that Ben (that's Skylight) can do it again and again."

Skylight has the jump on former candidates—his age. As a rule, dogs that have won the Pennsylvania title have been six or seven before they gained the savvy, the know-how. After that, they're slowing up. Barring accidents, sickness or what have you, Skylight will get four more shots at it. And he'll be out to prove it ain't hoo-dooed!





It Takes Dollars and Cents To Pay The Way For Pennsylvania's Wildlife Program

By N. E. Slaybaugh

A Report on the Finances of the Game Fund during the Fiscal Year June 1, 1954 to May 31, 1955

SINCE its creation by an Act of Legislature in 1895 and through the following sixty years of operations, the Game Commission has dedicated its efforts to the responsibilities imposed by law to protect, propagate, manage, and preserve the game and various other species of wild birds and animals of the State, and to enforce the laws of the Commonwealth relating thereto. This includes the proper management of the State Game Lands, State Game Refuges, State Game Farms, Cooperative Farm-Game Projects, Propagation and other areas.

The Commission plans its wildlife restoration and management programs so that the expenditure of the funds placed at its disposal will benefit the greatest number of people on a statewide level—not only for today, but in the years that lie ahead.

It is with justifiable pride that the Game Commission keeps the public informed of its accomplishments, which includes the annual report of expenditures from the money paid into the Game Fund through the sale of Hunting Licenses and other minor sources. Therefore, in fulfillment of that long-standing policy, we desire to render a complete report on the disbursements of the money from the Game Fund for the fiscal year June 1, 1954 to May 31, 1955, amounting to a total of $3,826,158.06. While Game Fund Dollars stabilize the conservation program, many contributions which cannot be evaluated in dollars and cents add greatly to the overall program, such as:

1. The services rendered by the eight (8) men appointed by the Governor who serve as Members of the Pennsylvania Game Commission without any compensation. They may only be reimbursed for actual expenses incurred in line of official duty.
2. The Game Protectors, other Commission Employes and Representatives who have again given of their time beyond the call of duty.
3. The farmers and landowners who serve as hosts to approximately a million hunters annually.
4. The excellent cooperation and teamwork of organized and individual sportsmen who are tireless in their efforts to promote better conservation practices; grateful recognition to those who, individually or collectively, have aided or contributed in this current program and were not mentioned specifically in the foregoing paragraphs.

When reduced to simple terms, our financial picture is not complicated. For the year beginning June 1, 1954 and ending May 31, 1955, we relate the following story:

During the year we received monies from various sources which were deposited in the Game Fund, as follows:

Hunters' Licenses (including Resident, Nonresident, Antlerless Deer and Archery)	$3,254,387.11
Game Law Fines	120,190.00
Special Game Permits (Fur Dealers, Taxidermists, Game Propagators, etc.)	18,555.00
Interest on Game Fund Deposits and Securities	18,133.75
Sale of Forest Products from Game Lands	68,868.26
Sale of Animal Skins	6,208.55
Sale of Unserviceable Property and Equipment	567.70
Rental from Commission-owned Buildings	22,651.09
Ground Rental and Royalties from Gas and Oil Leases	572,744.48
Sale of Publications (principally GAME NEWS subscriptions)	40,925.28
Federal Aid for Wildlife Purposes (75% of Cost of Approved Projects)	543,818.65
Right-of-Way Leases and Damages, Royalties on Coal, etc.	52,191.74
Total Receipts from all sources deposited in the Game Fund during the year	4,719,241.61

With the amount on hand at the beginning of the year ($2,086,635.92) and what was deposited during the year ($4,719,241.61) there was accumulated from all sources $6,805,877.53.

During the year $3,826,158.06 of the total sum accumulated was spent for the following purposes:

Executive Office, Accounting and Office Expenses	$ 219,542.46
Research for Wildlife Improvement	72,151.54
Conservation Education	249,922.02
Training School (General Maintenance and In-Service Training)	8,519.11
Land Utilization Operations	1,331,939.03
Propagation, Purchase and Distribution of Game	946,718.12
Wildlife Protection including Law Enforcement	864,731.65
Payment of Bounty Claims and Administrative Expenses Relating thereto	132,634.13
Total	$3,826,158.06

MAY 31 CASH BALANCE

This year, as during the preceding years, all bills were paid by the Treasury Department as of May 31, 1955, thereby automatically bringing the accounts of the Commission and Treasury Department into complete agreement. Since there was accumulated $6,805,877.53 and there was spent $3,826,158.06 we came to the end of the fiscal year with a cash balance of $2,979,-719.47. We are certain that this system is serving its purpose, namely, eliminating any confusion about the true cash balance in the Game Fund at the end of any fiscal year—May 31.

Sportsmen, especially new subscribers to the GAME NEWS are often confused about the need of a large cash balance at the end of each fiscal year. They say "Why do you need a large cash balance as of May 31 each year? Why don't you spend it?" The explanation is simple—during the months of June, July, August and September of each year, the work must go on and be paid for as usual, but that is a very lean period for receipts. The bills to be paid during those four months are about $1,000,000 more than the money received for the same period, so instead of spending all the money accumulated each fiscal year, a sufficient sum must always be saved to pay the bills from June 1 to September 30. By October 1 each year the new license money starts to come in and from that time there is sufficient money received currently to finance the program undertaken to the end of the fiscal year. A minimum of $1,250,000 working capital is a desirable objective to stabilize the operations of the Commission during the months that expenditures greatly exceed income.

The present working capital of $1,359,-863.07 does little more than provide for the usual expenditures during this period, leaving a very small amount for emergencies that could arise. What do you suppose would happen if the opening of the hunting season were delayed by Proclamation of the Governor due to extremely dry forest and field conditions which could result from a prolonged drought? It could easily delay the receipt of monies and develop a very serious financial situation since the Commission has no means by which it can borrow any money for any purpose at any time. These facts should make any person realize that the Commission must be both businesslike and careful in its financing.

The difference between the working capital of $1,359,863.07 and the amount available in the Game Fund May 31, 1955 ($2,979,-719.47) is reflected in the accumulated money to May 31, 1955 from Ground Rentals and Royalties from Gas Leases in the amount of $681,581.83, which has been earmarked for capital investments (buildings and land) beginning June 1, 1955, the allocation of $847,570.00 for budgetary purposes during the 1955-1956 Fiscal Year and an unexpended balance of $90,704.57 in the 1953-1955 Biennium Allocation to the Department of Revenue.

AUDIT OF GAME FUND

Questions concerning any published report, such as "Are the figures correct?" or "Are the accounts in order?" are timely

and certainly apply to the Game Fund.

By an Act of General Assembly, the Auditor General is required to audit State Departments, Boards and Commissions. At the time this article went to press no formal audit for the period has been made. However, every bill is audited by the Auditor General before payment is made. The application of sound management and business practices employed by the Commission is further attested to in the audit reports for ten previous years, seven of which contained no criticism or suggestions for improvement, and three which contained several suggestions of a minor nature. The same high standards were maintained during the year reported herein, and it is reasonable to assume that the audit, when made and a report filed, will show that the affairs of the Commission were handled in an equally efficient manner.

NOW FOR THE DETAILS

Our Annual Report must satisfy not only the persons who want a quick picture but also those who desire details. It is believed the foregoing material will meet the requirements of the first group. However, for the benefit and information of the latter group, certain statements and charts are made available with this article. By looking at the chart and referring to Table No. 1, you will find in greater detail the functions for which the monies were used and the number of cents of each dollar expended that was used for each purpose.

By referring to Table No. 2, you will find the cash balances in the Treasury Department at the beginning and ending of the fiscal year, the receipts from the various sources during the year and the total funds available during the year. It also shows the various classifications of expenditures that comprise the total cost of each organizational unit as well as the total spent by all units for each classification.

STATE-WIDE FIELD OPERATIONS

Over one-half of the Game Fund expenditures is spent for land utilization and wildlife protection operations, including law enforcement—all field activities. Believing there is a general interest in the field operations and the amount spent for each activity, we are giving below supporting details:

EARMARKED FUND

Under the provisions of the Game Law, as amended by the 1949 General Assembly, not less than $1.25 from each Resident Hunter's License fee shall be used for improving and maintaining natural wildlife habitat on land that is available for public hunting; the purchase, maintenance, operation, rental and storage of equipment used in this work; the purchase, distribution, planting, cultivating and harvesting of game foods; the purchase, trapping and distribution of all species of game, as well as providing protection to the property of Farm-Game Cooperators.

This program has been in operation for six (6) years. The table below shows the expenditures in relationship to the minimum amount required by law for the fiscal years ending May 31, 1950, May 31, 1951,

WILDLIFE PROTECTION

Game Law Enforcement on a State-wide Basis	$ 649,257.29
Proportionate Share of Field Division Office Administration	54,987.66
Maintenance of Prisoners Incarcerated for violation of Game Laws	1,551.00
General Administrative expenses chargeable to Wildlife Protection	43,391.01
Activities in connection with the control of predators	54,014.82
Protecting Farm-Game Projects	24,088.79
Payment to Retirement System for Employes	37,441.08
Total Cost During the Fiscal Year for this Purpose was	$ 864,731.65

LAND UTILIZATION

Food and Cover Projects on State-owned Lands	$ 501,916.55
Food and Cover Projects on other than State-owned Lands	65,557.71
Maintenance and Development of State Game Lands, Primary and Auxiliary Refuges, Dog Training and Archery Preserves	185,905.27
Purchase of Land including Title and Survey Costs	19,692.54
Establishing, Maintaining, Development and Operating Farm-Game Projects	188,617.32
Proportionate Share of Field Division Office Administration	81,638.55
Conservation Development Work in Cooperation with Federal Government	26,977.12
Purchase of Equipment (trucks, tractors, graders, etc.)	50,163.71
Feeding of Game in the Wild	83,037.28
General Administrative Expenses Chargeable to Land Utilization	67,776.46
Maintenance of State Game Propagation Areas	5,072.68
Payment to Retirement System for Employes	24,267.01
Building Construction on State Game Lands	21,156.41
Establishing and Maintaining Rabbit Farms (exclusive of Food and Cover Projects)	10,160.42
Total Cost during the Fiscal Year for this Purpose was	$1,331,939.03

TABLE NO. 1 SUMMARIZED FUNCTIONAL EXPENDITURES

The expenditures of the Commission during the fiscal year ended May 31, 1955 have been subdivided into major activity groupings as follows:

		Part of Dollar
Utilization of Land for Wildlife. Management of State Game Lands, Cooperative Farm-Game Projects and other leased areas totaling 2,069,102.47 acres. Also payments in lieu of taxes	$1,331,939.03	34¾
Propagation of Game. Operation of game farms, purchase of game, wild game transfer, distribution of game	946,718.12	24¾
Protection of Wildlife. Salaries and expenses for enforcement of game laws; assistance in enforcement of fish, dog and forest laws and numerous other field activities	864,731.65	22½
Conservation Education. Game News, publications, exhibits, motion pictures, radio broadcasts, attending Sportsmen's meetings, etc.	249,922.02	6½
Bounty Payments. Bounties on noxious animals including administrative expenses relating thereto	132,634.13	3½
Wildlife Research. Wildlife studies to determine practical methods for developing management programs	72,151.54	2
Instruction and Training. Maintenance of buildings and grounds and In-Service Training (Training School temporarily inactivated)	8,519.11	¼
Executive Office. Accounting and Office Service (219,542.46 subdivided below):		
Accounting and Office Service. Audit of accounts and bookkeeping, personnel matters; supervision over purchases, equipment and supplies	85,466.11	2¼
Hunting Licenses. Including tags, applications, reports	74,973.75	2
Executive Office. Administration, Salaries and expenses of Executive Office and expenses of Commissioners	30,751.71	¾
Mailing, Mimeographing, etc., including postage	28,350.89	¾
TOTALS	$3,326,156.06	100

May 31, 1952, May 31, 1953, May 31, 1954 and May 31, 1955:

Year Ending	Expenditures	Minimum Amount Required
May 31, 1950	$1,211,687.72	$1,012,573.75
May 31, 1951	1,266,856.18	1,002,435.00
May 31, 1952	1,095,938.26	1,012,931.25
May 31, 1953	1,163,287.09	1,037,683.75
May 31, 1954	1,247,584.35	1,073,921.25
May 31, 1955	1,215,545.03	1,084,118.75
Totals	$7,200,898.63	$6,223,663.75

During the six year period, the Commission spent $977,234.88 in excess of the minimum amount required by law for these operations.

CAPITAL INVESTMENTS

The entire Game Fund is not available for normal operating expenses, such as salaries, traveling expenses, wages, feed for game, payment of bounties, etc., but a certain amount must be spent for the essential working tools of the Commission, also maintenance expense incidental thereto. To produce a shootable supply of game and provide natural habitat with adequate food and cover requires land, game farms, buildings, pick-up trucks, heavy motorized equipment, etc. Money spent for such items is commonly referred to as "Capital" expenses. Just as it is impossible for large industrial plants to operate successfully without making "Capital" expenditures so it is with the Game Commission. The table below gives the actual consideration paid for land, together with the estimated value of other items as of May 31, 1955:

State Game Lands (1920-1955) ..	$4,339,008.78*
Buildings on State Game Lands	263,390.00†
Game Propagating Farms (including land, buildings and equipment)	507,605.17†
Conservation School (including buildings and equipment)	32,336.40†
Equipment (including automobiles, trucks, tractors, graders, etc.)	207,746.17†
Total	$5,350,086.52

* Consideration paid for lands including title and survey costs.

† Estimated value as of May 31, 1954.

Note—The Buildings on Game Lands include occupied and other buildings, whereas the total of $128,250 as of May 31, 1954 included only those occupied.

HUNTING LICENSES ISSUED

Year	Resident	Non-Resident	Total Licenses
1913	305,028	No Record	305,028
1918	311,290	478	311,768
1923	497,216	2,328	499,544
1928	437,727	1,190	438,917
1933	524,337	4,966	529,303
1938	654,146	7,584	661,730
1943	570,901	11,833	582,734
1944	593,917*	13,983	607,900
1945	696,394*	17,227	713,621
1946	832,846*	23,174	856,020
1947	822,423*	28,012	850,435
1948	854,840*	28,085	882,925
1949	815,915*	24,032	839,947
1950	808,171*	26,001	834,172
1951	826,044*	31,278	857,322
1952	830,779**	32,042	862,821
1953	859,783**	30,664	890,447
1954†	867,998**	30,809	898,807

† Preliminary report, subject to minor changes.

* Includes free licenses issued to Members of the Armed Forces and Disabled Veterans.

** Includes free licenses issued to Disabled Veterans.

EDITOR'S NOTE—

*** Mr. Slaybaugh served as Comptroller from June 16, 1929 to June 20, 1955, when he was assigned to the position of Personnel Director for the Game Commission.

TABLE NO. 2

PENNSYLVANIA GAME COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JUNE 1, 1954 TO MAY 31, 1955

REVENUE

Cash in State Treasury to credit of "Game Fund" June 1, 1954		$2,086,635.92
Receipts June 1, 1954 to May 31, 1955:		
Hunters' Licenses (after deducting the Issuing Agents' Commission)	$3,254,387.11	
Game Law Fines	120,190.00	
Special Game Permits (Fur Dealers, Taxidermists, Game Propagators, etc.)	18,555.00	
Interest on Deposits and Securities	18,133.75	
Sale of Forest Products from Game Lands	68,868.26	
Sale of Animal Skins	6,208.55	
Sale of Unserviceable Property and Equipment	567.70	
Rentals from Buildings and Land	22,651.09	
Sale of Publications	40,925.28	
Federal Aid for Wildlife Purposes (75% of cost of approved projects)	543,818.65	
Ground Rental and Royalties from Gas Leases	572,744.48	
Right-of-Way Leases and Damages, Royalties on coal, etc.	52,191.74	
Total Receipts from All Sources		4,719,241.61
Total Funds Available during Year		$6,805,877.53

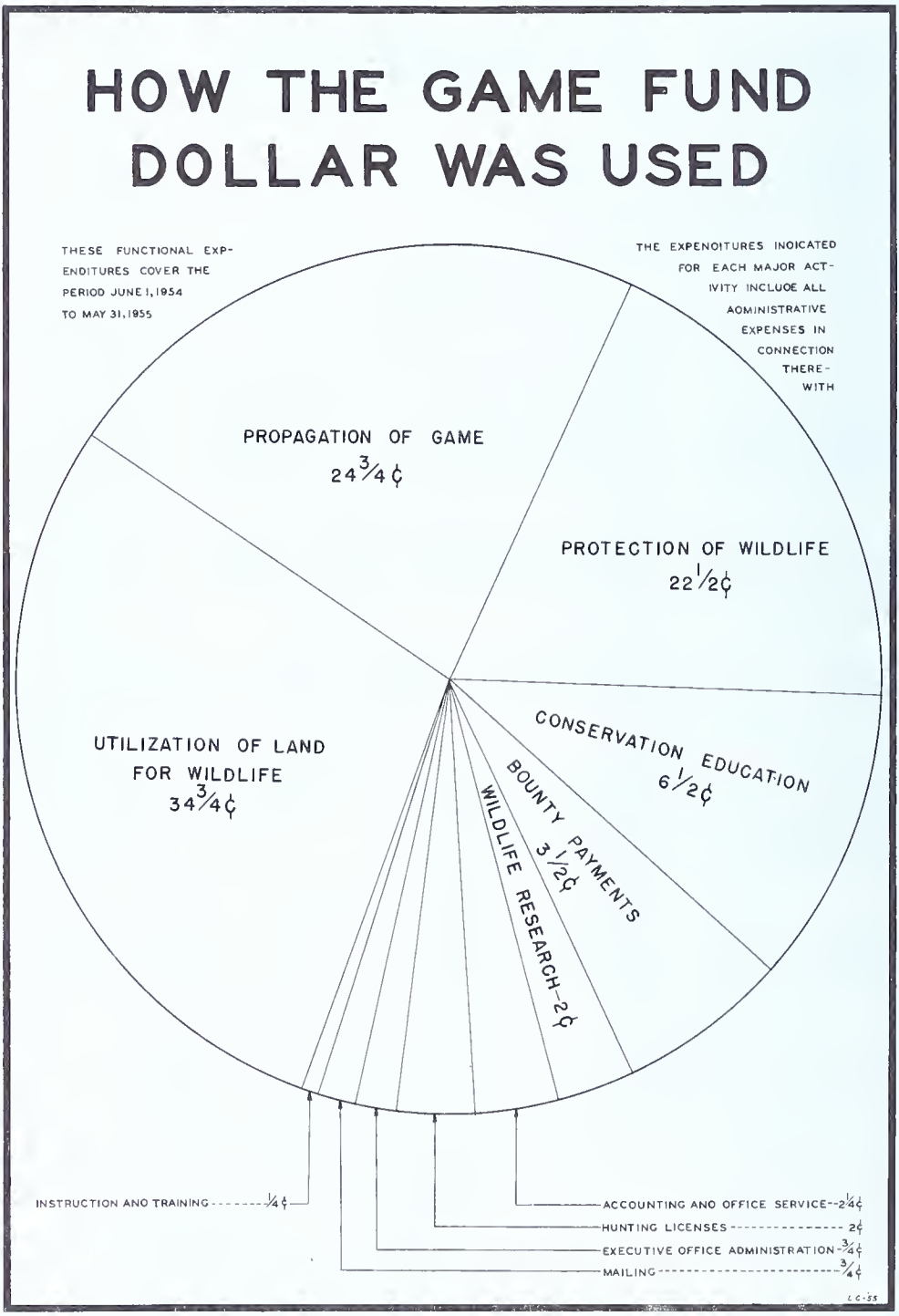
CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Exec. Office and Acct'g & Ser.	Game Propagation	Wildlife Research	Land Utilization	Wildlife Protection	Bounty Claims	Conservation School (Instruction and Training)	Conservation Education	Total
Salaries	$100,176.09	$161,800.61	$ 42,262.36	$ 262,752.41	$463,969.36	$ 14,091.25	$ 118.93	$ 97,541.34	$1,142,712.35
Traveling expenses of all kinds, including auto mileage	5,738.43	28,634.33	9,302.08	58,981.65	144,794.48	23.33	4,016.55	22,270.88	273,761.73
Deputy Game Protectors (Wages and Expenses)	.....	.....	.....	.....	97,624.26	.....	.....	.....	97,624.26
Cooperative Farm-Game Program (Total Cost)	.....	127,483.00	.....	188,617.32	24,088.79	.....	.....	.....	340,189.11

Wages (Land Management, etc.)	.....	.....	.....	382,154.09	.....	.....	.....	.....	382,154.09
Wages (Game Farms, etc.)	2,874.81	175,089.81	2,572.90	.....	8,098.29	.....	1,056.99	6,177.34	195,870.14
Purchase of Game	.....	45,313.20	.....	.....	.....	.....	.....	.....	45,313.20
Rabbit Trapping and Wild Game Transfer	.....	96,936.97	.....	.....	.....	.....	.....	.....	96,936.97
Feed (for Game Farms and game in the wild)	.....	198,273.63	.....	34,792.03	81.68	.....	.....	83.77	233,231.11
Express and Cartage	86.62	672.50	19.21	919.31	699.61	28.33	.....	1,183.60	3,609.18
Purchase of Lands (title and survey included)	.....	7,132.90	.....	19,692.54	.....	.....	.....	.....	26,825.44
Payments in Lieu of Taxes to Local Taxing Units	.....	215.94	.....	67,269.21	.....	.....	.....	.....	67,485.15
Building and Construction (mostly on Game Farms)	.....	2,958.12	.....	21,156.41	.....	.....	.....	.....	24,114.53
Repairs to Buildings, Grounds and Equipment by Contract	84.19	3,092.89	5.00	12,165.00	293.82	.....	1,016.96	1,537.86	18,195.72
Equipment (mostly for land management and Game Farms)	3,611.93	13,818.40	197.72	50,163.71	2,688.07	.....	339.50	278.17	71,097.50
Miscellaneous Supplies	3,404.04	31,996.70	1,145.26	117,225.94	17,491.01	50.86	278.63	6,811.69	178,404.13
Motor Supplies	846.14	12,051.86	351.90	47,773.34	3,220.95	.....	571.97	1,008.95	65,825.11
Light, Heat and Fuel	.....	9,053.55	.....	854.98	258.86	.....	855.50	1,377.15	12,400.04
Insurance	659.95	2,169.99	251.23	8,843.48	2,934.63	72.72	.....	1,064.96	15,996.96
Postage, Telephone and Telegraph	9,013.71	3,488.73	674.87	7,514.75	19,973.99	1,023.40	264.08	5,737.22	47,690.75
Rental of Equipment, Offices, Auto Storage, etc.	3,483.39	11,438.26	592.00	20,742.33	6,923.92	121.82	.....	1,599.00	44,900.72
Bounty Payments and Grants	.....	.....	11,000.00	.....	.....	115,707.00	.....	3,685.00	130,392.00
Refund of Receipts	55.75	.....	.....	1,360.28	260.00	.....	.....	.....	1,676.03
Fees:—Artists, Attorneys, Medical, Taxidermy, etc.	18.00	70.90	.....	507.20	3,157.25	.....	.....	18,400.92	22,154.27
Bear Damage Claims	.....	.....	.....	.....	1,752.91	.....	.....	.....	1,752.91
Other Maintenance Services and Expenses	1,556.97	85.58	36.41	240.57	2,230.45	2.60	.....	1,121.88	5,274.46
Newspaper Advertising	.....	.....	.....	1,188.68	8,429.76	.....	.....	.....	9,618.44
Printing, Binding and Paper	4,924.54	236.79	352.70	2,756.79	18,318.48	351.26	.....	72,240.45	99,181.01
Printing Hunters' Licenses, Tags and Misc. Forms*—(through Department of Revenue)	74,973.75	.....	.....	.....	.....	.....	.....	.....	74,973.75
Contributions to State Employes' Retirement System*—(through Department of State)	8,034.15	14,703.46	3,387.90	24,267.01	37,441.08	1,161.56	.....	7,801.84	96,797.00
TOTAL EXPENDITURES	$219,542.46	$946,718.12	$ 72,151.54	$1,331,939.03	$864,731.65	$132,634.13	$ 8,519.11	$249,922.02	$3,826,158.06

Amount available in "Game Fund" May 31, 1955 (including $1,993,402.50 in U. S. Government Securities) $2,979,719.47

* These items are paid out of the "Game Fund" upon requisitions drawn by the Department of Revenue and Department of State and are included to complete the picture of the "Game Fund" finances.


HOW THE GAME FUND DOLLAR WAS USED
THESE FUNCTIONAL EXPENDITURES COVER THE PERIOD JUNE 1, 1954 TO MAY 31, 1955
THE EXPENDITURES INDICATED FOR EACH MAJOR ACTIVITY INCLUDE ALL ADMINISTRATIVE EXPENSES IN CONNECTION THEREWITH
PROPAGATION OF GAME 24 3/4¢
PROTECTION OF WILDLIFE 22 1/2¢
CONSERVATION EDUCATION 6 1/2¢
BOUNTY PAYMENTS 3 1/2¢
WILDLIFE RESEARCH—2¢
UTILIZATION OF LAND FOR WILDLIFE 34 3/4¢
INSTRUCTION AND TRAINING ---- 1/4¢
ACCOUNTING AND OFFICE SERVICE--2 1/4¢
HUNTING LICENSES ---- 2¢
EXECUTIVE OFFICE ADMINISTRATION-3/4¢
MAILING ---- 3/4¢
LC-55

A Sportsman's Guide To . . .

Union County

Fifty-Second In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Union County contains 203,200 acres of which 108,427 acres (53.4%) are forested. Publically owned land totals 56,114 acres, including 565 acres of State Game Lands.

Transportation

Railroad transportation is furnished by the Pennsylvania and Reading lines. Pennsylvania Route 45 crosses the county, which has 192 miles of improved State highways.

District Game Protector

District Game Protector John S. Shuler, P. O. Box 542 (721 Market Street), Lewisburg (Phone: 1-5451) is assigned to Union County by the Pennsylvania Game Commission.

Fish Warden

Fish Warden Kenneth G. Corey, Hummels Wharf, is assigned to this county as well as Snyder County by the Pennsylvania Fish Commission.

Agriculture

Although small in size, Union County has some of the best farming land found in the State, especially the Buffalo Valley. Excellent crops of corn, wheat and oats are grown here and the county is noted for its dairying.

Industry

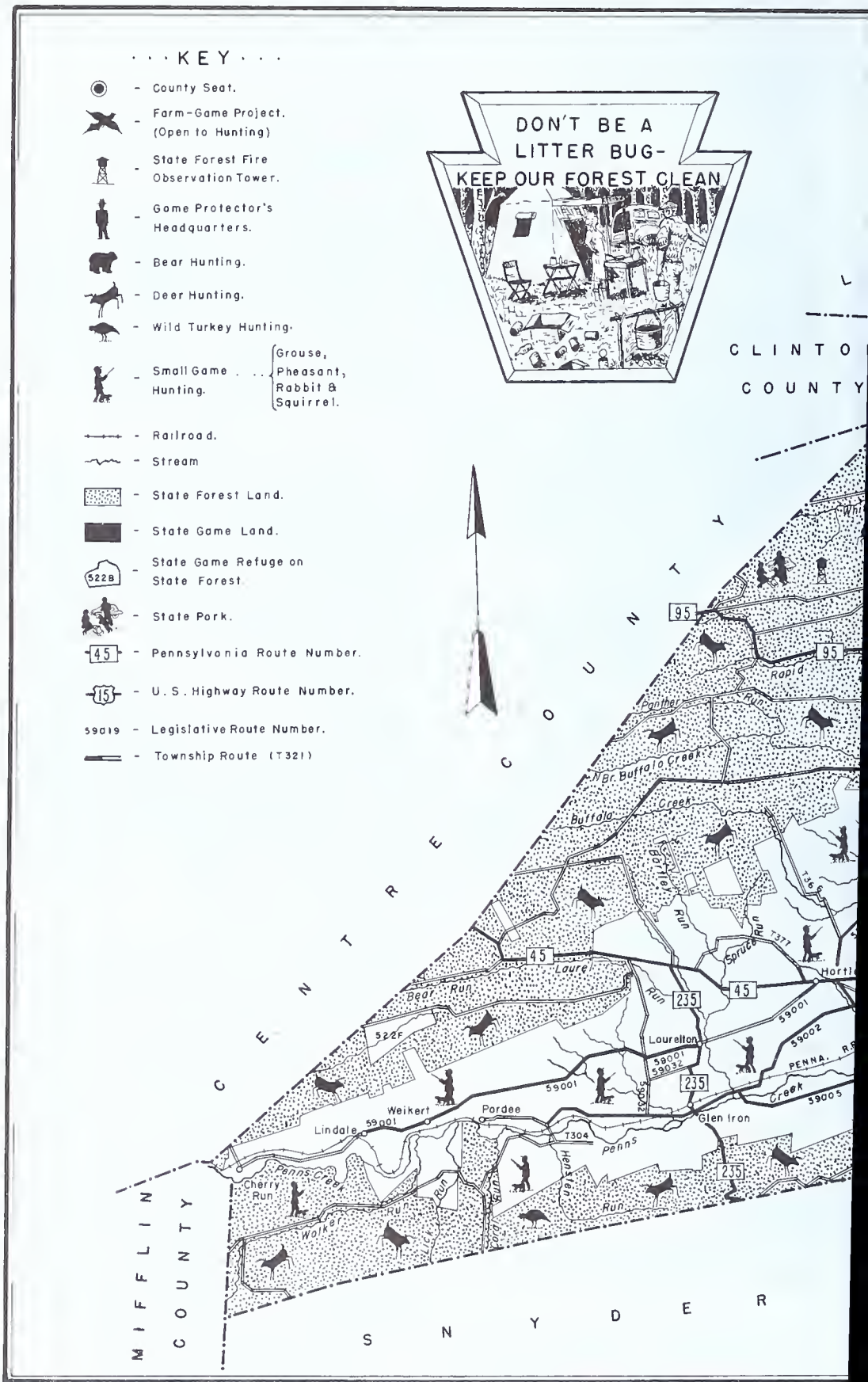
Principal classes of manufacturing industry are food and kindred products, lumber and its remanufacture, textiles and textile products. New Berlin, the first county seat, is a cheese center. Lewisburg, the present county seat, has grist mills, furniture and textile plants. Mifflinburg's outstanding industries are the textile mills and the manufacture of auto and truck bodies.

History

When Union county was separated in 1813 from old Northumberland county, its territory included Snyder county. The county's name was selected when the federation of the States into a strong union was a new and significant experience. Lewisburg, the county seat since Snyder county was established in 1855, is located at the confluence of Buffalo Creek and the Susquehanna River. A few miles north of Lewisburg, in the days before this region was settled by the white man, was situated Old Muncy Town, Chief Shikelamy's village. This famous Indian chief belonged to the Oneida tribe of the Iroquois.

The purchase of Indian lands at Fort Stanwix in 1768 included this territory. In 1769 this "new purchase" was opened for settlement by the proprietaries who were very careful never to open lands for settlement until they had made a purchase or treaty with the Indians.

General Bouquet's officers had requested a grant of frontier lands on the West Branch and received 24,000 acres of land in this area. Each grant was for 300 acres and was to be occupied by a family within two years. Officers with military experience, therefore, settled in this territory. Later, through their influence, this area contributed significant services in the Revolution and in the Indian


· · · KEY · · ·
- County Seat.
- Farm-Game Project. (Open to Hunting)
- State Forest Fire Observation Tower.
- Game Protector's Headquarters.
- Bear Hunting.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream
- State Forest Land.
- State Game Land.
- State Game Refuge on State Forest.
- State Park.
- 45 - Pennsylvania Route Number.
- 15 - U. S. Highway Route Number.
59019 - Legislative Route Number.
- Township Route (T321)
DON'T BE A LITTER BUG- KEEP OUR FOREST CLEAN
CENTRE COUNTY
MIFFLIN COUNTY
SNYDER
CLINTON COUNTY
95
45
235
Rapid Run
Panther Run
N Br. Buffalo Creek
Buffalo Creek
Garrison Run
Spruce Run
T377
T316
Laure
Bear Run
522F
Lourelton
59001
59002
59003
PENNA. R.R.
Creek
59005
Weikert
Pordee
Glen Iron
Lindale
T304
Penns
Penns Creek
Cherry Run
Walker Run
Henstey Run
Run



PENNSYLVANIA
GAME COMMISSION

UNION COUNTY
PENNSYLVANIA

warfare on the frontiers. The Officers' Survey was made by John and Samuel Maclay, both of whom later became United States senators from Pennsylvania.

During the Revolutionary War one of the eight companies comprising Thompson's Rifle Battalion was organized in Buffalo Valley in 1775 under the command of Captain John Lowdon. The company was described as made up of hardy men, many of them more than six feet tall. They were noted for their rifle marksmanship.

Union County has been the home of many prominent persons. Eli Slifer, who started as a hatter's apprentice in Lewisburg, served in the Legislature, several terms as State Treasurer, and finally became Secretary of the Commonwealth under Governor Curtin. He was the Governor's chief assistant in organizing the defenses of the State during the Civil War. The Wolfe family has long been prominent in Lewisburg. Charles S. Wolfe, born in 1846, was a leader in the investigation of charges of bribery in connection with the passage of the Boom Bill in 1875. Henry C. Wolfe served as a brigadier general in World War II. Tasker H. Bliss, also of Lewisburg, was army chief of staff in World War I and later served as military advisor at the Versailles peace conference.

Lewisburg is the site of Bucknell University, a coeducational institution of higher learning founded in 1846 by the Baptists. The Northeastern Federal Penitentiary was erected in 1930 on a thousand acre tract of land north of Lewisburg.

Recreation—State Parks

The western part of Union county is a part of the great Bald Eagle State Forest, so named for a Muncee Indian chief. Two parks lie in this great forest tract—the Joyce Kilmer State Forest Monument and the McConnells Narrows State Forest Monument. Halfway State Park, located on State Highway No. 95 midway between Mifflinburg and Centre Hall, offers facilities for swimming, fishing, camping, picnicking and scenic views.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Bear Run, Laurelton, Rt. 888, 3 mi.; Buffalo Creek, Mifflinburg, Rt. 45, 9 mi.; Little Buffalo Creek, West Milton, Rt. 404, 4 mi.; North Branch, Buffalo Creek, Mifflinburg, Rt. 45, 7 mi.; Cherry Run, Laurelton, Rt. 888, 3 mi.; Halfway Dam, Livonia, Rt. 95, 7 acres; Halfway Run, Mifflinburg, Rt. 45, 4 mi.; Laurel Run, Laurelton, Rt. 888, 6 mi.; Penns Creek, Laurelton, Rt. 888, 8 mi.; Rapid Run, Cowan, Rt. 95, 11 mi.; Spring Creek, Elimsport, Rt. 44, 3 mi.; Spruce Run, Mifflinburg, Rt. 45, 7 mi.; Weiker Run, Laurelton, Rt. 888, 6 mi.; White Deer Creek, White Deer, Rt. 975, 17 mi.

BLACK BASS: Buffalo Creek, Mifflinburg, Rt. 45, 10 mi.; Laurel Park Dam, Laurelton, Rt. 888, 10 acres; Millmont Dam, Millmont, Rt. 888, 24 acres; New Berlin Dam, New Berlin, Rt. 104, 8 acres; Penns Creek, New Berlin, Rt. 104, 20 mi.; White Deer Hole Creek, Allenwood, Rt. 404, 6 mi.

Recreation—Hunting

Union County affords good hunting for forest game species including deer, grouse, wild turkeys and bear. Two tracts of State Game Lands are found here—Number 201, covering 269 acres near Mifflinburg, and Number 193 covering 296 acres near Winfield. One large Cooperative Farm Game Project, open to public hunting, is located in the county—Number 132 covering 17,556 acres near Mifflinburg.



Young, Willing And Able

BEAVER COUNTY—When I was hard pressed to get some multi-flora rose planted and not able to hire any local labor, I called on Larry Blaney, advisor of the Aliquippa High School Conservation Club. He was able to furnish me with seven boys. They did a wonderful job of planting in a section laid out for them—planted over 4,000 in about four hours.—District Game Protector J. B. McGregor, Beaver.

Night Owl For Television

COLUMBIA COUNTY—A great horned owl that Homer Keck got out of a nest as a fledgling on March 27, and raised by hand feeding has developed into quite a pet. The bird is allowed to go out for exercise during the day and has only failed to return on one occasion. That one time he stayed out all night, but was sitting on the back steps in the morning wanting to get in the house. Mr. Keck says the bird is very fond of television and will sit on his knee by the hour, especially if there is a boxing match on the program.—District Game Protector Lewis H. Estep, Berwick.

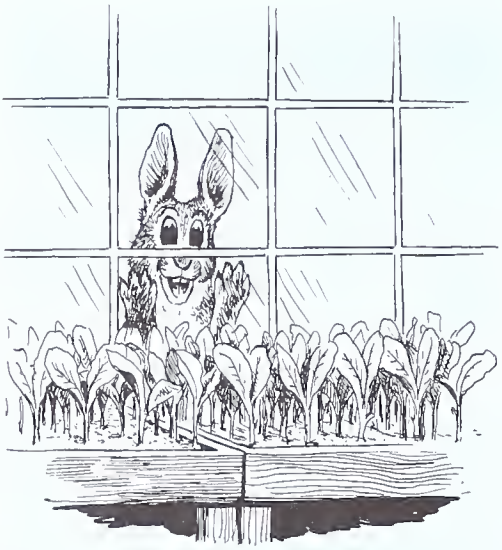


Points For Predators

ARMSTRONG COUNTY—The Armstrong County Sportsmen League is conducting a vermin control contest among the member clubs during the period of February to December of this year. As of the May meeting, the following numbers of predators had been accounted for: 14 horned owls, 81 foxes, 10 weasels, 29 unprotected hawks, 56 stray cats, 289 opossums, 60 skunks, 353 crows and 54 water snakes. At the end of the contest, a gold trophy will be presented by A. B. "Doc" Eadie, League President, to the club having the greatest number of points in the contest. Also, each club member acquiring 100 or more points in the contest will be awarded a special shoulder patch by the County League. It is expected that the vermin kill will be several thousand at the end of the contest.—District Game Protector W. J. Brion, Kittanning.

Feeding The Mouth That Bit Them

FAYETTE COUNTY—Some local people called about rabbit-garden trouble with a different angle this past May. They had put up a fence around part of the garden. They knew the rabbits are almost impossible to trap this time of year, but wanted me to remove a nest from their strawberry patch. They had left it there, but watched the six young rabbits till they were starting to leave the nest.—District Game Protector John R. Hiller, Uniontown.



Greenhouse Grazer

ALLEGHENY COUNTY—It appears now that the rabbits in this area feel that the humans are not planting edible delicacies soon enough for them. On May 23, I had a call from a Mr. G. H. Wilmot, of Clinton, Pa., that rabbits were eating some plants inside a greenhouse that he operates. On investigating, I found that the rabbits had nearly cleaned three boxes of pepper plants and one expensive rose. To date, we have removed three rabbits from the "Bunny Restaurant."—District Game Protector Fred H. Servey, Clinton.

Hawks And Squirrels And Things

HUNTINGDON COUNTY—One day last May while talking to our rural mail carrier, he told me of a couple incidents of interest to me. First, he told of seeing some kind of large hawk flying along a back road with a live crow firmly held in its talons. When he stopped to investigate the situation, the crow was somehow able to escape from the hawk and managed to fly away. Second, he told of seeing a red squirrel dragging and hauling something off the road. Wondering what it was the squirrel had, he stopped to look. And to his amazement saw the little fellow was dragging a dead red squirrel, probably its mate, through the weeds and into a hollow tree. As has often been proved before, some animals have a great love for their fellow kin.—District Game Protector Dean M. Lesnett, Hesston.

Deer Proofing For Orchards

SCHUYLKILL COUNTY — Deer damage complaints pertaining to orchards and other farm crops are becoming more numerous. If the number of complaints and the number of deer killed on highways are any indication, we must have an over population of deer in this district. Mr. Daniel Green, a Farm-Game Cooperator, tried the following method of keeping deer from browsing his trees. He soaked burlap bags in creosote and hung them on trees along the edge of the orchard, about 20 feet apart. So far this plan has been successful. — District Game Protector Ralph L. Shank, Pine Grove.

Black Bandit Robs Robin

FRANKLIN COUNTY — During May, I observed a crow flying with a young robin in its beak. There were about ten robins flying after it and putting up a fight and making quite a lot of noise. The robins were joined in the fight by several smaller birds but the last that I could see the crow still had its victim.—District Game Protector Edward W. Campbell, Fort Loudon.



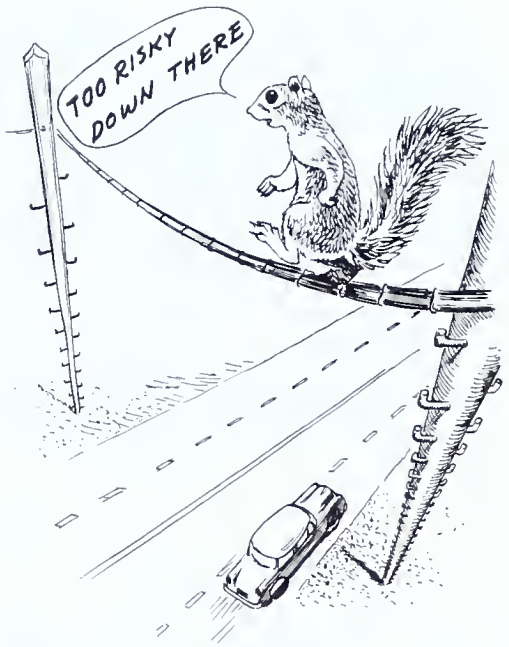
Aerial Observation is Awesome

ELK COUNTY—A close friend of my family, Thomas Gausman, who is an amateur airplane pilot and flies out of St. Marys Airport, was telling me of the way the strip cutting on Haney Hill stands out when viewed from the air. He says it has the appearance of a very large dead fern, due no doubt to the chemical treatment of the trees. The road which practically centers the area, shows up as the main stem, the strips which cross the road at right angles form the ribs, these ribs narrow in length as the ridge narrows, giving the appearance of a large leaf. I would like very much to view this area from the air.—District Game Protector Vern A. Van Order, Wilcox.

Robin Routes Rascal

CENTRE COUNTY—I have heard many reports of birds becoming victims of snakes, but seldom is the snake the victim. Deputy Simcox reported to me that during mid-May he heard an excited robin in his back yard. Investigating, he saw the robin jumping and pecking at something in the yard. Closer inspection revealed a garter snake about 18 inches long. Deputy Simcox said he watched the battle with the idea of helping the robin if need be. His help wasn't needed though, the robin, ignoring Simcox's presence, kept jumping in and pecking the snake until he had killed it.—District Game Protector Robert H. Sphar, Philipsburg.





Tight Rope Expert Travels Safe

MONTOUR COUNTY—While on patrol in my district during the month of May, I was delighted to note an incident that happened along a well traveled highway. A gray squirrel came out of the woods and due to heavy auto traffic it stopped along the berm of the road. It then climbed a telephone pole supporting a cable and crossed the road above the autos passing underneath by carefully crawling over the cable. When it reached the other side of the road, it scampered down the pole and into another patch of woods. — District Game Protector Bruce P. Yeager, Northumberland.

Doves Delight

SUSQUEHANNA COUNTY—Several people in Susquehanna County have noted the increase in the mourning dove population. This increase is evident in that the dove can be seen dusting on almost any dirt road. One farmer even asked what "that new bird was." For the past three years a pair of doves have nested in each of the two blue spruce trees on our front lawn.—District Game Protector Donald G. Day, Susquehanna.



Breakfast Surprise

CLEARFIELD COUNTY — Recently a resident of DuBois was awakened from his early morning slumber by a very loud noise which appeared to come from the kitchen. The gentleman went to investigate and much to his surprise there was a deer standing in the kitchen. The party, after quite a considerable amount of effort, got the kitchen door open and the deer went on its way. Further investigation revealed the deer had crashed through the front door. This home is located in the residential section of DuBois.—District Game Protector Claude B. Kelsey, Troutville.

Bears Break Loose

CARBON COUNTY—The month of May seemed to be the month for bears to go on the rampage in spite of the fact that many acorns still are to be found in good condition. No less than seven bear damage claims were investigated, during which time two 100 pound sows were killed and several beehives destroyed. One of the marauders was shot returning for another hog and another one was killed as he was crossing a railroad to continue his feast on a deer previously thrown over the bank after being killed on the same railroad. Many bears have been seen by turnpike and other workers during the past few weeks which leads one to believe there may be a good season lying ahead for big game hunters.—District Game Protector William E. Fulmer, Lehighton.

Timberdoodle Highway Tragedy

LUZERNE COUNTY—On my return from the headquarters on State Game Lands No. 91 recently, in the early evening, my attention was called to a woodcock which had fluttered off the road as the car of two Food and Cover men, Rodeghiero and Zekoski, approached. We stopped to investigate and she flew into the alders along the road. We looked around and soon found the reason for her reluctance to leave. In the middle of the road we found the smashed remains of her two little birds which had been killed by a car. From the size of the heads and feet and their downy bodies, we believe they were less than two days old.—District Game Protector George A. Dieffenderfer, Wyoming.

Ugly Duckling

BERKS COUNTY—On May 28, I received a call from Farm-Game Cooperator Dennis Feik, relating the following: He had noticed a mallard duck, that had nested in his meadow, moving about followed by the newly hatched family trailing behind, bringing up the rear of the procession was a small bird, Feik thought to be a sparrow. Closer observation revealed that it was a ringneck pheasant chick. As the duck and her brood headed for a nearby stream the pheasant chick became lost in the tall grass. After spending some time searching for the lost chick, Feik found it and took it home where he placed it with a bantam hen who readily accepted it as one of her family.—District Game Protector Harry H. Rickert, Kutztown.



OUTDOOR FUN WITH A FUTURE



Let's Look at Predators

By Ted S. Pettit

ANIMALS that we call predators are probably misunderstood by more people than any other of our wildlife species. Many people think that there is no such thing as a good—or even a harmless predator. Many others think that all predators ought to be protected because they are all basically valuable. Somewhere in between these two extremes, probably, lies a sound and sane attitude toward those animals that eat other animals.

Predators, in general, are those birds and mammals that eat smaller animals as the main part of their diet. Some so-called predators eat plant life too, but they are considered to be chiefly meat eaters.

Predatory animals fall into three main groups. First are the hawks and owls; second are the mammals such as foxes, skunks, bobcats, and coyotes; and third are the fish eating birds such as herons, ospreys and kingfishers. To some extent, crows are predators since they eat bird eggs and have been known to eat young birds, and some snakes such as the black snake or milk snake will eat bird eggs or young birds. Snapping turtles are noted for their predation on young ducks. In some cases, too, raccoons are predators on bird eggs and young birds. Mink and weasels, too, will prey on birds and mammals if the opportunity presents itself.

So actually, many of our most interesting wildlife species are predators. The problem of how much control is needed, which ones to control and how to control them will be present for a long time to come. But before thinking about controlling these animals, there are two important things to think about.

First, a need for predator control exists in the minds of some people because the predators are competitors with man. Great horned owls catch rabbits for food. Man hunts rabbits for recreation and for food. Owls and man hunt the same animals and the idea is that if the owl gets there first, the rabbit is not present for man to shoot. Therefore, if the owls are removed by trapping or shooting, then man will have more rabbits.

Foxes eat pheasants when they can catch them. Man shoots pheasants when he can find them and hit them. Man and foxes compete for the same prize—a cock pheasant. But if the fox gets there first—and he does not observe game laws such as open seasons or bag limits—there are fewer pheasants for man to shoot. Many people



Leonard Lee Rue Photo
GREAT HORNED OWL is as fierce as he looks. Control of this predator is necessary in many parts of Commonwealth.

say that if the foxes are removed, there will be more pheasants.

A kingfisher that lives along a trout stream may catch trout fingerlings for food. Trout are one of the most sought after game fish by man. If kingfishers eat young trout, they cannot grow up to fill the creel of the fisherman. Consequently, it is felt, that if kingfishers are controlled, there will be more trout, or bass, for man to catch.

From the point of view of the sportsman, those are reasonable assumptions. Remove the predators and there will be more game.

But naturalists point out the other side of the problem. For thousands of years predators have been roaming the forests and fields, or flying over them, and when the white man first came to this country he found rabbits, grouse, quail, trout and bass in large numbers. So predators really did not have much influence on the numbers of the desirable species of animals. Naturalists point out, too, that there is no indication that any animal ever became extinct because of predators wiping it out. They point out that predators are high up the animal ladder and that relatively speaking, they are far fewer in number than aniamls further down—animals that eat plant life. In most cases what they do eat doesn't really matter much anyway. A problem arises when man enters the scene—and wants the same animals that the predators eat. In nature, without man, there is no serious predator problem.

But man is part of the picture, and a very important part too. Man may not need rabbits, pheasants, quail, grouse, trout or bass for foods the way wild predators do. Man can get the food he needs at the super market or straight from the soil in the form of vegetables, dairy products or meat. But man does need the wholesome, outdoor recreation provided by hunting and fishing. The nature of the times in which we live—with many of us spending the major part of our lives in congested cities, living at a very fast pace to make our living—makes it essential that we do have the opportunity for a few weeks or days out of the year to get outdoors and hunt or fish. Wildlife management experts have this to say about hunting and fishing, and its effect on the numbers of wildlife species. When you stop to think about it, it provides one answer to both sides of the question.

Carrying Capacity

Every farmer knows one rather simple fact. His barn will hold just so many cows. If he has sixteen stanchions, he can put 16 cows in them. He knows, too, that his pasture will support just so many cows. If he puts in too many, the grass cannot grow fast enough to provide food for all the cows, and he must either remove some or find more pasture land.

It is much the same way with a wildlife habitat and wildlife species. Whether it be pheasants, rabbits or even predators, any given habitat will support just so many animals and

that's all. You can put more in, but it won't help. They will die or move away, unless you improve the habitat (provide more pasture and a bigger barn) so that more animals can live there.

Wildlife technicians point out that any area has a measureable and limited capacity for supporting wildlife that live there. Good habitat might support one pheasant per ten acres and poor range might support one bird per hundred acres. You could release more birds into the area, and very soon the population would be back to its natural carrying capacity. The only way to increase birds is to add those things to the habitat which the birds need for survival.

Thus where birds are introduced into an area that cannot support them, predator control is not much good. The birds will perish anyway and the cost of the predator control is wasted money. The same money spent on habitat improvement might have increased the number of birds.

Wildlife experts point out something else too that is important when thinking about hunting the same animals the owl or the fox hunts. Wildlife experts point out that nature wastes animals right and left and that it is all part of the natural scheme of things.

Suppose we had a rabbit population in a given area of 100 animals on the first of March and that the numbers are not changing much from year to year. To have 100 rabbits the next year, here's what must happen: the female rabbits will have one to five litters each with about five young per litter. They may average 15 young per pair of adults. That means that with the 2 adults, there would be seventeen rabbits. But on the first of March next year, there are only two. Going back to the original 100 rabbits, that means that somewhere around 650 rabbits died during the year, and we still have our original 100 to breed again.

Fish & Wildlife Service Photo by Scheffer

LIFE EXPECTANCY of snowshoe rabbit leaves much to be desired. Limiting factors, including predation by great horned owls, doesn't offer much hope for old age.



This number that die every year is called the "annual surplus." Biologists have found that it doesn't matter what you do, that annual surplus will die anyway. You can close the area to hunting and still the surplus doesn't live through. You can wipe out predators and something else will kill the animals.

You raise the carrying capacity and increase the number of animals that survive. But there still will be a surplus above the carrying capacity that will die from one cause or another.

But if rabbits or pheasants have their annual surplus so do predators. Hawks, owls, foxes or skunks also produce more young than live out the year, because they too are controlled naturally by carrying capacity of the land on which they live. Many predator control programs consist of money spent killing animals that will die anyway from other causes. The same money spent on improving the cover and other wildlife needs might more quickly increase the number of rabbits, pheasants or other game animals.

Leonard Lee Rue Photo

CHIPMUNKS ARE CHOICE items on food menu of many predators. In turn they may eat eggs of ground nesting birds, becoming predators themselves. Whole predator controversy revolves around "who eats who."



This does not imply that all predator control programs are not necessary. Any such general statements are as absurd as saying that predator control will always produce better hunting. It won't. And some control measures in some cases may be desirable.

Pheasants that have been pen-reared for release just before the season opens, are subject to heavy kill by predators in some areas. After all, when they are released, they are almost tame birds. They wouldn't know a hawk, owl or fox if they saw one. For those birds to survive long enough to provide sport for the hunter, predators must be controlled. There are many other cases too, where control is important.

A heron in a fish hatchery can have a field day. When it costs a dollar a pound, let's say, to raise trout for stocking, a heron can be a serious economic problem. But that same heron on a pond may well contribute toward better fishing.

Fish biologists have proved that many ponds have too many fish in them. The result is poor fishing. Just like a pasture which can support so many cows, an acre of water can support so many pounds of fish. That poundage of fish can be made up of thousands of small fish, or fewer larger fish. Obviously, the larger fish are more fun to catch, and we say that fishing is good when we can catch them.

But if the fish are not caught out, they compete with each other for food, and they may become stunted —that is, they stop growing. The heron, osprey or kingfisher by catching these small fish may help a little in controlling the fish population, and in making fishing better.

There is another angle to the control of some predators that you can see for yourself and it will show you



Karl H. Maslowski Photo

OWL PELLETS CAN PROVIDE interesting and educational pastime. Identification of the remains of mice, shrews and other small mammals in these pellets will show beneficial aspects of many hawks and owls. Note meadow mouse skull showing in the pellet above.

too something about the small mammals that live in your area.

If you know where there is an owl nest, or a place where an owl roosts; or a hawk nest, or a tall dead tree where a hawk may roost, look around underneath for pellets. Hawks and owls spit up the undigested parts of the food they eat, and these pellets fall to the ground resembling bundles of fur, feathers and bones. The pellets generally are the size of your thumb —some smaller, some larger depending upon the kind of hawk or owl.

When you find these pellets, carefully pick them apart and you will find bones and skulls of mice, shrews and other small mammals. When you identify the hawk or owl you can quickly see why such birds as the barn owl, red-tailed and red-shouldered hawk are really farmer's friends —since they devour large numbers of rodents that would otherwise eat hay and grain crops.

Another stunt to try is this; fence off a small plot in a hay field or pasture so that skunks, hawks or owls cannot get in, but so that mice can. Watch the plot all summer and see what happens.

Frequently in tests such as this, the hay or grain within the enclosure is eaten by mice to a greater extent than the hay around the outside. In at least one test in a pasture, mice within the fenced area ate more than cattle grazing around the outside.

Skunks, foxes, weasels and snakes eat rodents in large numbers and in most cases, rodents make up the biggest part of their diet. When the predators are wiped out, there is no immediate control on the rodents and they increase to destroy large quantities of food products.

These predators have an important place in the natural scheme of things and when they are wiped out, the animals they feed on may cause a serious problem.

There is an old story told that may be made up just to prove the point. But it is possible it is true, and it does illustrate a point.

On a farm lived two brothers. They made part of their spending money by trapping skunks around the edge



SKUNK WAS SUSPECTED by farmer of being a corn eating villian, which was the truth. So a successful war was waged against the "pests." However, the farmer then discovered that he lost . . .



DUCKLINGS, shown here following their mother. After some "detective" work, it was learned purged skunks also had habit of destroying eggs of . . .



of a marsh and pond on one side of the farm. Every year, for years, a pair of ducks nested in the cattails and raised a crop of young ducks.

One year, the brothers decided to trap more skunks so they could have more money toward bicycles they wanted to buy. They were experienced trappers by now and were successful.

But a couple of springs later, they noticed an increase in the number of snapping turtles in the lake, and decrease in the number of young ducks that survived and flew south in the fall.

What happened, according to the story, is that the skunks dug up and ate snapping turtle eggs. When too many skunks were removed, the turtles increased and killed more ducks.

Whether the story is true or possible is not as important as the point that is obvious. Many problems in wildlife management exist because of man and what he does to upset nature.

By now two points should be obvious and they are the point of this article. Animals that we call predators have been around for a long time and have a definite place in the world of nature. Predator control, generally, is an expensive proposition and doesn't always produce more game. Careful thought, study and investigation is necessary before money is

Photos by Lynwood M. Chace

SNAPPING TURTLE, shown hatching. The turtles, no longer controlled by skunks, had been eating the ducklings.

spent paying bounties or in other control practices. Perhaps other wildlife management practices will produce more game. Perhaps control is necessary. But careful consideration should be given first to be sure the expense and effort can be justified. Your fun in the future depends upon the well-thought out and careful expenditure of the money you pay for hunting licenses and taxes on guns and ammunition. Be sure your money is being spent wisely.



Photo by Lynwood M. Chace

The Fox— More Friend Than Foe?

The battle of the fox as a predator on other wildlife species is one that has waged hot and heavy for many years. From Michigan, a recent report on a study of this problem seems to indicate the fox is not nearly so black a character as he is sometimes painted.

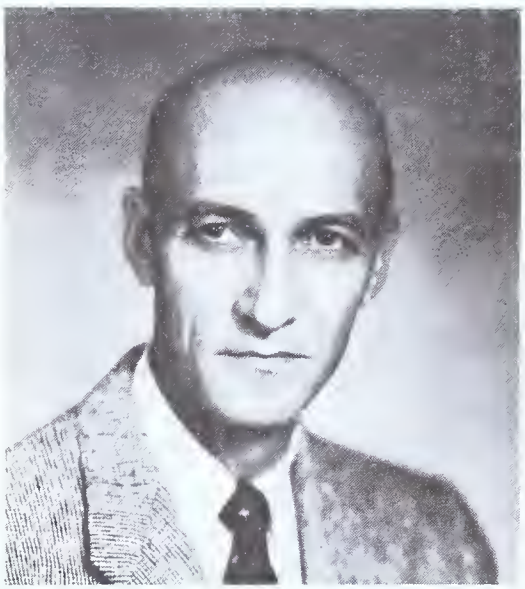
During the past five winters, Michigan Conservation Department field men have tracked foxes for more than 1,000 miles. The study was made on fresh snow in the state's southern pheasant range, the field men noting fox activity and especially looking for signs of predation on pheasants. The results show foxes killed fewer than one pheasant per 40 miles of hunting by foxes. In the 1000 miles, 2,407 pheasants were flushed by the trackers but only 24 ringnecks were found killed by foxes. Nine quail and 55 rabbits were also killed by Reynard in this distance. Mostly, however, the study showed foxes feed on field mice and carrion.

The trained trackers found evidence that 200 mice were killed and that 1,581 other attempts were made to catch mice. The trackers say half these attempts were probably successful. Foxes seldom leave any evidence when they eat mice; unlike the feathers or bits of skin and bone that identify pheasant and rabbit kills. Forty-one shrews were killed. In general, foxes only played with these animals. Shrews have a strong odor and are probably unpalatable except to unusually hungry foxes.

The foxes also fed on three snakes dug out of groundhog holes and 20 types of carrion, including dead deer, sheep, pigs and fish.

The trackers found that foxes travel about 5½ miles per night and do most of their hunting in a circular area of about two square miles. They trot back and forth across open stubble fields. They are intensely curious and investigate brush piles, rock piles, farm machinery, fences, frozen drainage ditches and other breaks in the landscape.





Joseph J. Micco



N. E. Slaybaugh

Joseph J. Micco Named Commission Comptroller

Appointment of Joseph J. Micco, Harrisburg, to the important post of comptroller for the Pennsylvania Game Commission was recently announced by the Governor's Office and the Commission. Mr. Micco was Assistant Director, Bureau of Disbursements, Pennsylvania Treasury Department when he was transferred to assume his new duties with the Game Commission on June 20. A native of Allentown, he started his state service in 1935 as a clerk in the Bureau of Motor Vehicles, Department of Revenue. In October, 1937 he was transferred to the Treasury Department where he specialized in accounting and auditing procedures, soon being promoted to supervisory positions. Mr. Micco is married and resides in Colonial Village, a Harrisburg suburb.

The new comptroller succeeds Nelson E. Slaybaugh who was recently appointed Director of Personnel for the Game Commission. Mr. Slaybaugh joined the Commission's Accounting Staff on November 11, 1920 and served as its Comptroller from June 16, 1929 to June 20, 1955 when he was assigned to his present position.



PGC Photo by Batcheler

LONGER DAILY SHOOTING HOURS FOR ARCHERS were signed into law by Governor George M. Leader on June 13. Witnessing the signing were, left to right, Dr. Logan J. Bennett, Executive Director of the Game Commission; Thomas A. Forbes, member of the Pennsylvania State Archery Association; Ray Armstrong, president of the Pa. Federation of Sportsmen's Clubs; and Clayton B. Shenk, P.S.A.A. Executive Secretary.

Commission Sets 1955 Seasons

On July 1 the Pennsylvania Game Commission met at Harrisburg and set the following daily, season and possession limits for the taking of game birds, game animals and furbearers during the hunting license period beginning September 1, 1955, and ending August 31, 1956.

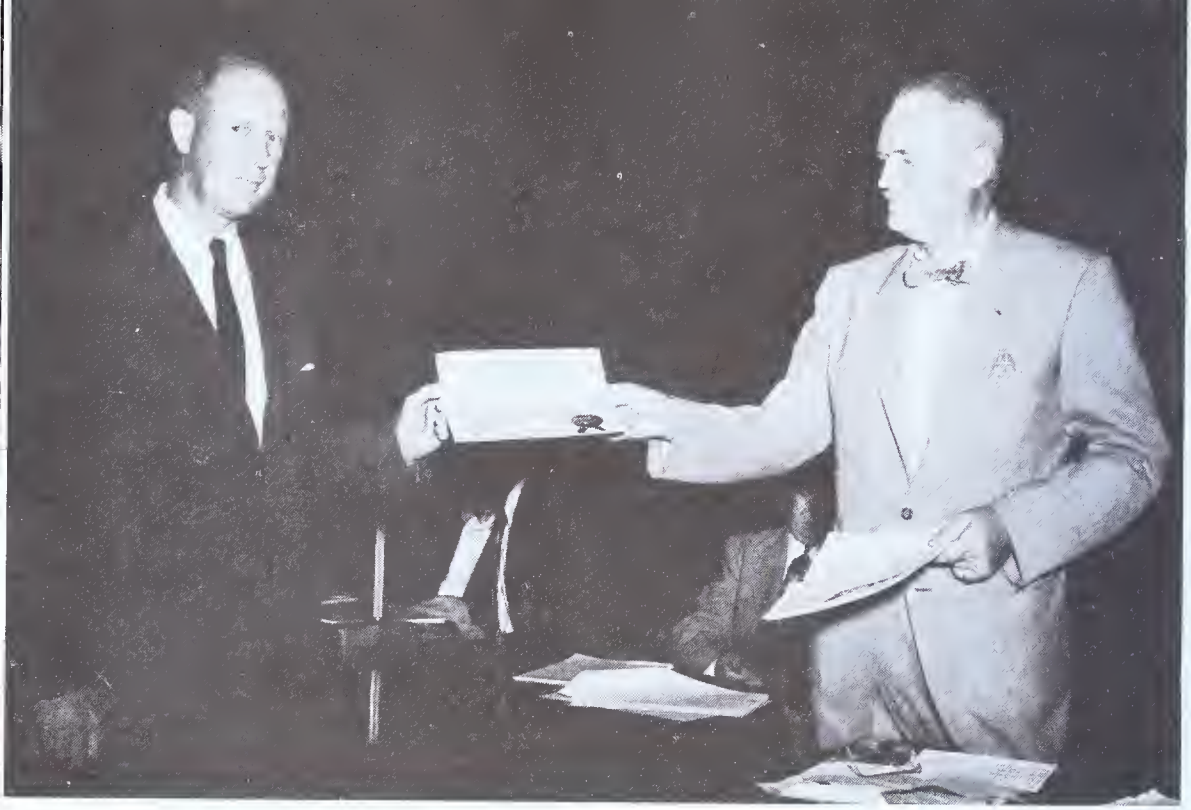
Based upon the findings of Commission personnel and forestry officials, and on the recommendations of sportsmen, farmers and others in position to know the situation, the Pennsylvania Game Commission today established a two-day state-wide antlerless deer season, to take place December 12 and 13, 1955. Here are the reasons for that decision:

1. Pennsylvanians are experiencing great deer damage to farm crops in many counties, and the Commission realizes farmers must be relieved of this damage.

2. There are many forested areas in the state under the ownership of the Commonwealth, the Federal Government, and private interests that are undergoing severe overbrowsing by deer. This is not only detrimental to forest resources but to the deer as well.

3. There are many areas in the state where an overabundance of deer has caused many highway accidents, not only causing loss of human life but also hundreds of thousands of dollars of property damage.

The Game Commission has used every bit of information available in attempting to establish the kill quotas in counties where the problem is present. In regards to this the Commission has purposely established high quotas in some counties and low quotas in others. This was done after



PGC Photo by Batcheler

AWARD OF MERIT given to outstanding conservationists by American Association of Conservation Information was presented to Charles W. Stoddart, Jr., State College, left, by Col. Nicholas Biddle, President of the Game Commission, during meeting with state's conservation organizations on June 30.

serious consideration of conditions in each county and on the advice of The Pennsylvania Sportsmen's Federation, game protectors and citizens. This was the recommendation, also, at the June 30 meeting with representatives of the Pennsylvania Department of Forests and Waters and the Allegheny National Forest.

At the meeting held in Harrisburg on June 30, when all the recognized conservation agencies met with the Game Commission, it was the unanimous opinion of the organizations represented that the Commission should recognize the fact there are too many deer in many areas of the state and that action should be taken to correct the situation.



Louisiana Wildlife & Fisheries Commission Photo

PRESIDENT'S GAVEL is presented by retiring president Leo A. Luttringer, Jr., Chief of the Game Commission's Conservation Education Division, to W. T. Calhoun, newly elected president from Wisconsin. Luttringer concluded successful term in office by presiding at Association's annual meeting last May in New Orleans.

Pennsylvania Official 1955 Open Seasons and Bag Limits

(Regulations apply for Hunting License Year, September 1, 1955-August 31, 1956)

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game and other wild birds or animals on October 29 will be 9:00 A. M. Otherwise, shooting hours daily are from 7:00 A. M. to 5:00 P. M., but from July 1 to September 30 inclusive, 6:00 A. M. to 7:30 P. M., excepting the hours for the October archers' deer season which are 5:00 A. M. to 5:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	Day	Season	First Day	Last Day
Ruffed Grouse	2	8	Oct. 29	Nov. 26
Bobwhite Quail	4	12	Oct. 29	Nov. 26
Wild Turkeys	1	1	Oct. 29	Nov. 26
Ringneck Pheasants, males only	2	8	Oct. 29	Nov. 26
Rabbits, Cottontail	4	20	Oct. 29	Nov. 26
Squirrels, Gray, Black & Fox (combined)	6	24	Oct. 29	Nov. 26
Squirrels, Red (closed October 1 to 28 incl.)	Unlimited		All mos. (except Oct. 1-28)	
Hares (Snowshoe Rabbits)	2	6	Jan. 2	Jan. 7, 1956
Raccoons	Unlimited		Unprotected	
Woodchucks (Groundhogs)	Unlimited		Unprotected	
Grackles	Unlimited		Unprotected	
Bears, over one year old, by individual	1	1	Nov. 14	Nov. 26
Bears, as above, by hunting party of three or more	2	2	Nov. 14	Nov. 26
DEER: **Bow and Arrow Season**—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal (requires hunting license and Special Archery License), by individual	1	1	Oct. 10	Oct. 22
Regular Season—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, by individual			Nov. 28	Dec. 10
Antlerless Season—(requires hunting license and Antlerless Deer License), by individual			Dec. 12	Dec. 13

NO OPEN SEASON—Hungarian Partridges, Hen Pheasants, Sharp-tailed Grouse, Cub Bears, Elk, Spike Bucks with antlers less than three inches long, and Otters.

FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected	
Minks	Unlimited		Nov. 5	Dec. 31, 1955
Muskrats (traps only)	Unlimited		Dec. 3	Jan. 28, 1956
Beavers (traps only) state-wide	4	4	Feb. 15	Mar. 5, 1956

SPECIAL REGULATIONS

POSSESSION AND TRANSPORTATION LIMITS of legally-killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1955 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during Bow and Arrow Season, issued only by the Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued only by County Treasurers, at a fee of $1.15, and valid only in the county for which issued. Farm occupants permitted by law to hunt without a license may also hunt for antlerless deer during the Antlerless Season on the same land as for other game. See Digest issued with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a Nonresident prior to November 12, or after December 11, 1955.

BEAVERS—No trapping at Commission-posted dams. Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. Pelts must be tagged within 10 days after season, and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers not to be placed, staked or set before 7:00 A. M. on the first day of the open seasons. The season indicated for Trapping closes at 12:00 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (July 1, 1955)

Penna. Junior Conservation Camp Enters 8th Year of Outdoor Education

The 1955 Junior Conservation Camp, held annually since 1948 at the well-equipped Forestry Camp of Pennsylvania State University, is now in session. The camp period this summer started on June 19 and will continue to August 27. Charles W. Stoddart, Jr., Director of Extension of the University's School of Physical Education and Athletics is in charge of the five two-week sessions.

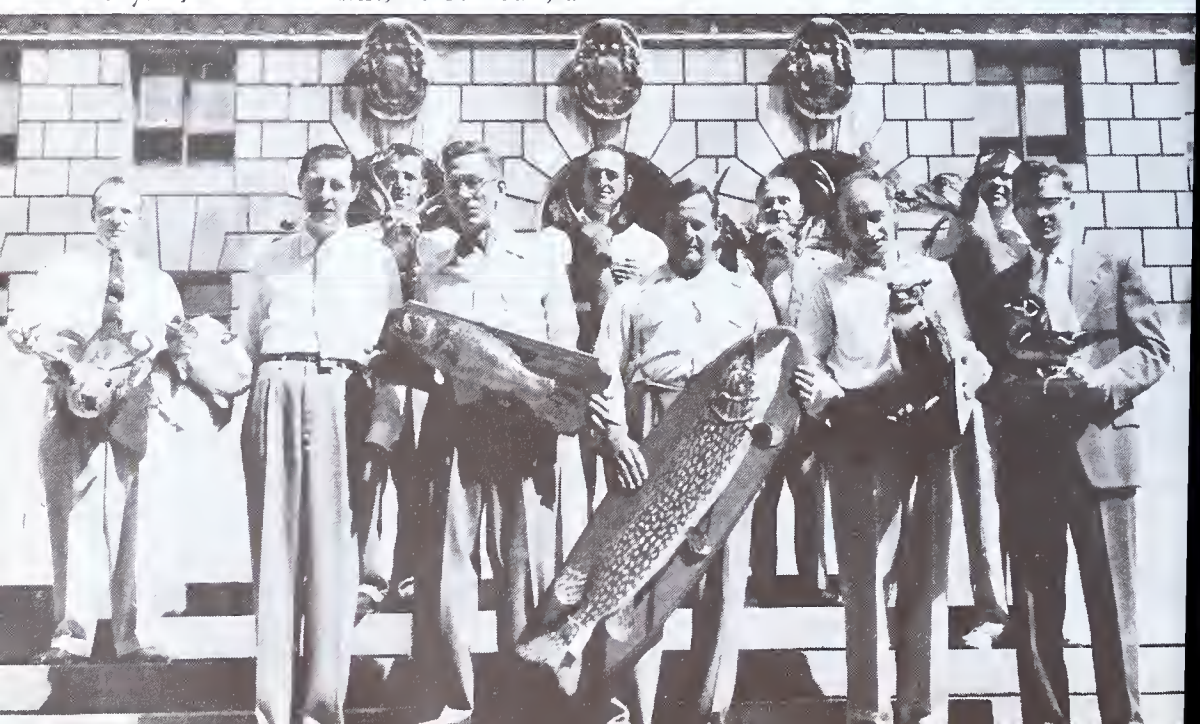
County units affiliated with the Pennsylvania Federation of Sportsmen's Clubs sponsor outstanding boys from sophomore and freshman classes in high school for four of the sessions. The sportsmen pay expenses of the boys to, from and while they are at camp. The first group from the Federation's Southcentral and Northcentral Divisions attended the camp from June 19-July 2; boys from the Southern and Northeastern Divisions were at camp from July 3-16; from the Southwestern and Northwestern Divisions from July 17-30, and the final group from the Southeastern and Central Divisions from July 31-August 13.

A two-week conservation camp for girls will open at the Forestry Camp on August 14. The program for this period will be identical to that given the boys. Ladies with counseling experience will provide the leadership. The girl's camp is sponsored by the Pennsylvania Federation of Garden Clubs, Pennsylvania Women's Clubs and the Pennsylvania Roadside Council.

The Junior Conservation Camp is widely recognized as an outstanding conservation education project. It has trained almost 1000 boys and girls from every county of the state through the cooperative efforts of the Federation of Sportsmen's Clubs and the Pennsylvania State University. Instructors are assigned to the camp from the University and from state and national conservation agencies.

PGC Photo by Cady

NEW TAXIDERMISTS who were granted licenses by Game Commission following examination by state taxidermy board in Harrisburg on June 22 are, left to right, first row: George Holliger, Harry Paff, Boyd Oller, Warren Lichty, Arthur Peck; second row, Albert Snyder, Sherwood Little, A. G. Doutt, and Robert Gemmill.



10th Annual Conservation Education Laboratory Being Held At State University This Summer

It has often been said the best time to impress Americans with the need for sound resource management is during the formative years. But until fairly recently the problem of putting across the overall conservation story was first one of instructing school teachers on the subject. The Conservation Education Laboratory, open to both men and women teachers, was therefore established in the mid-forties as a summer course at The Pennsylvania State University.

The eventual effect of knowledge gained there and imparted to school children is appreciated by conservation agencies generally. The Game Commission realizes the value of the course, not only because of wildlife education gained but because the management of soil, water and timber largely determines game and fur populations.

The tenth annual Laboratory is being conducted at the University this summer. Professor T. R. Porter of the staff there has announced these dates for the two classes: July 5 to 23 and July 25 to August 13. Three units of credit are given persons completing the study course.

Through this instruction the teacher-students will: 1. Obtain information from first-hand observation of natural resources. 2. Understand the interrelationships between natural resources and between man and resources. 3. Develop a philosophy toward resource use that will carry over into everyday living. 4. Become familiar with the efforts made by various agencies toward conserving natural resources. 5. Study efficient and practical methods of correlating conservation concepts into classroom teaching at various levels of pupil ability. 6. Become familiar with instruction aids useful in conservation teaching. 7. Explore ways and means of influencing community action in conservation education programs.



NEW OFFICERS of Pennsylvania Trappers Association include, left to right: W. M. Boyer, Lebanon, Secretary-Treasurer; Bill Jackson, Conneaut Lake, Director of Public Information; and E. R. Hill, Upper Darby, President.

Total cost of the 1955 course is $89.70. This includes the general fee, that for health service and the cost of housing and meals. The Pennsylvania Federation of Sportsmen's Clubs has provided 10 teacher scholarships of $50 each for this summer's course. Women's clubs, individual sportsmen's clubs and other organizations also interested in natural resource education have defrayed the expenses of many teachers taking the course in past years. Such offers are again being made this year. Despite the generosity of these organizations and the worthiness of the cause some scholarships have gone begging in the past. It is hoped all the Laboratory scholarships offered this year will be accepted, to the benefit of teachers, youngsters and future resource management in Pennsylvania.



Pennsylvania Game Commission's In-Service Training Conference

MONT ALTO, JUNE 12-16, 1955

CONTINUING the tradition set at Mont Alto a year ago, as well as in similar conferences held in various parts of the state since 1922, the Pennsylvania Game Commission's entire field force and staff met this year from June 12-16 for an intensive training program. The theme of this year's conference was "Public Relations in the Field of Game Law Enforcement." The Pennsylvania Game Protectors, Division and Harrisburg staff officers were welcomed to the conference by Colonel Nicholas Biddle, President of the Commission, and heard Dr. Logan J. Bennett, Executive Director, keynote the convention in its opening session with this statement: "We are endeavoring to maintain a sport. We are dealing with sportsmen, and therefore we should be sportsmen in enforcing game laws."

Through the courtesy and cooperation of the Department of Forestry, Pennsylvania State University, the Franklin County campus was made available for the second straight year to the Commission's 200 man organization. In addition to providing comfortable and economical facilities for feeding and housing the men, the school setting was most appropriate to the subjects discussed. Highlighting speeches given by distinguished guests from other state and federal agencies were addresses by Maurice K. Goddard, Secretary of the Pennsylvania Department of Forests and Waters; T. C. Hunter, an official of the IBM Corporation who spoke on basic public relations policies; and Charles E. Gillham, noted outdoorsman and field conservation representative of the Olin Mathieson Corporation. Gillham drew on his wide experience as the first federal game warden in southwestern United States and later as a trapper and biologist in "talking shop" and relating experiences to the Commission officers. His remarks emphasized the value of knowing sportsmen, youth organizations and other individuals and groups who mold public opinion in order that game law violations can be reduced through education. The



PRESIDENT'S TROPHY is presented by H. L. Buchanan, Commission vice-president, to Morris Stewart, Southeast Field Division Supervisor, as members give victory smile. Top five-man team include Dan McPeek, Roy Trexler, Ralph Shank, Don Miller and Bill Moyer who scored in that order.

conferees also were given a brief talk by W. W. Britton, Chief of Law Enforcement of the Pennsylvania Fish Commission, on mutual enforcement problems.

The conference closed on Thursday, June 16 with an intra-division pistol match in which all game protectors fired a regulation competitive course. A beautiful trophy presented by Commissioner John C. Herman and won last year by the Northwest Division, was taken this year by the Southeast Division which posted the highest five-man average. The Supervisors' trophy, offered this year for the first time by the Commission's six field division supervisors for the division team posting the highest average score, was won by the Northwest Division.

COMMISSION OFFICIALS on hand to greet Charley Gillham, noted outdoorsman and conservationist, to Mont Alto Conference included, left to right: Executive Director Bennett, Commission vice-president H. L. Buchanan, Gillham, and Commissioner John C. Herman.



Bow Weights

By Tom Forbes



IF THE bowhunters of Pennsylvania may be said to have one thing in common, it is a demonstrated lack of ability to hit a deer under the most favorable conditions. Listen to a group of bowhunters telling of their experiences in pursuit of the elusive whitetail during the past special archery deer seasons. Many of the stories are good for a laugh in any group but they one and all evidence a lamentable lack of skill in the use of the bow on the part of the majority of bowman. True, many of the bowmen are not skilled hunters and they fail to sight a legal buck. Many fail to explore the territory in which they propose to hunt prior to the opening date. Deer signs are readily discernible wherever deer range and the experienced hunter will have located his deer and planned his hunt before the opening day.

A skilled bowman enjoys a certain amount of personal satisfaction in demonstrating his skill with the bow and none of us can claim to be entirely free of the urge to boast a little of our prowess. Too frequently the only thing the modern crop of bowhunters has to boast about is the weight of the bow we shoot. We are approaching our fifth special archery deer season in Pennsylvania and it is becoming increasingly evident each year that the bowhunter has placed entirely too much emphasis on bow weight and too little attention is paid to marksmanship. Almost the first question asked of a visiting bowman at a field shoot is: "What weight bow do you shoot?" Any answer that is below fifty pounds produces a period of embarrassment or, if we really want to set the man down, we hand him our "favorite" and say:

PRACTICE MAKES PERFECT is old adage that is just as true in bowhunting as in anything else. Field archery courses should attract more pre-season practice.





BACKYARD PRACTICE is even helpful in improving your chances for a clean kill when you look over the tip of a broadhead at a deer this fall.

"Pull that once."

Unfortunately bow weight is not a measure of a bowman's skill. Since it is highly improbable that a newcomer can ever learn good shooting form with a heavy bow, it follows that he will never be anything but an inferior marksman. It has been demonstrated time after time that a medium weight bow which the bowman has learned to shoot accurately is a deadly weapon. During the first special archery deer season in Pennsylvania in 1951 Mrs. William Johnson killed a deer with a single broadhead shot from a thirty-five pound bow. The Official Handbook of the National Field Archery Association has this to say about beginners equipment: "Whatever you do, don't get the he-man complex and think you must buy at least a seventy pound bow. Get a bow you can handle, not one that handles you."

Since the muscular development of individuals varies widely, it is not possible to recommend a single bow weight that would be suitable for all beginners. A bow that could be drawn with ease by a construction worker would be beyond the physical strength of one who spends his days in office work. You may get a certain amount of pleasure from boasting of the weight of your bow. But if you can't hit your hat consistently at any distance up to thirty yards, it won't matter much what weight of bow you own as far as hitting a deer in the vital area where it counts is concerned.

Statistics compiled from various surveys make interesting reading. They are informative but their results are susceptible to many interpretations and they may frequently be cited to attempt to prove opposite points of view. To compare the marksmanship of the bowhunters in the various states is a difficult if not an impossible undertaking since so many different conditions govern the hunt in the several states. Michigan has a land area approximately 25% greater than Pennsylvania and its herd is estimated to contain 600,000 deer which is double the estimated size of the Pennsylvania herd. In ad-

dition Michigan bowmen had a special archery deer season which extended from October 1st to November 5th in 1954 and also permitted the bowhunters a "hunters choice." It is estimated that 29,000 bowmen participated in the Michigan hunt last fall. This is almost twice the number of bowmen that were licensed to hunt in the Pennsylvania special archery deer season in the same year. With these favorable conditions the Michigan bowhunters reported a kill of 1500 deer. Now comes the significant figure: Michigan with twice our Pennsylvania length of season, a "Hunters choice," twice the number of deer in their herd, and twice the number of hunters, killed 27 times as many deer as we were able to bag in Pennsylvania. The more I examine these figures the more I am convinced that there is some intangible that has not been taken into consideration in the comparison between the bow hunting in the two states. Altho Pennsylvania was the first state to legalize hunting with the bow and arrow, Michigan had a special archery deer season for a number of years prior to 1951. It could be that Michigan bowmen found out the hard way that marksmanship and not bow weight are the decisive factor in the hunting field.

In a survey of bow weights conducted by the National Field Archery Association among its members who killed deer during the 1954 season, five deer were reported to have been killed with bows weighing between 35 and 39 pounds. The significant fact herein is that these five deer were all reported from Michigan. However, the survey also shows that the greatest number of deer were reported killed by bows weighing from 50 to 54 pounds. Should we therefore conclude that our best chance of bagging a deer is to carry a bow with a drawing weight between 50 to 54 pounds; or is it to be deduced that more bows of that weight are carried by the bowmen who hunt.

Following is the complete tabulation of the National Field Archery Association Bow Weight Survey among their members in the United States.

No. Deer Killed	*Bow Weight pounds*
1	102
3	Over 80
8	75 to 79
21	70 to 74
43	65 to 69
69	60 to 64
139	55 to 59
145	50 to 54
105	45 to 49
29	40 to 44
5	35 to 39

It is not the purpose of this article to give the impression that a heavy hunting bow is a handicap in the hands of a competent marksman. To the contrary the relatively flat trajectory of the heavy hunting bow over short ranges is a decided advantage in computing elevation, and the chance of striking an obstruction above the line of sight to the target is materially lessened.

Faulty technique is very difficult to overcome. Just shooting without any attempt to correct bad habits will not improve one's score. There is still plenty of time for us to improve our marksmanship before the special archery deer season opens this fall. If you have a bowman friend who rates Expert "A," ask him to analyze your shooting technique. Then make a determined effort on your part to follow his suggestions. It won't be easy. Bad shooting habits are hard to break, and any change in form feels awkward and uncomfortable. If however, you are determined, you can improve your score on the field course and materially increase the possibilities of a clean kill when you look over the tip of a broadhead at a deer this fall.



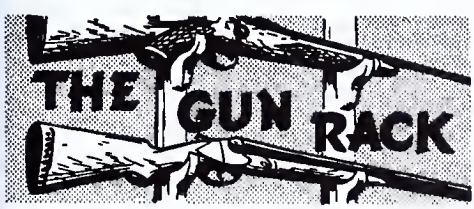
Choosing A Scope

Part I

By Ed Shearer

TELESCOPIC sights are not as new as some of today's shooters seem to think. Scopes for target shooting and some types of varmint shooting were developed to a high degree of accuracy many years ago. I first began using scope sights both on the range and varmints in 1914.

Shortly after World War I in the early twenties, the hunting scope as we know it today, began to make its appearance on the American market. Most of these were German-made scopes with the Ziess and Hensoldt by far the favorites. They were high quality scopes and in spite of the flimsy mounts, created a demand that was responsible for the development of the hunting scope in the United States.



In the fall of 1928 Stanley Gardner, an International Team member, and myself had Adolph Neidner build us a pair of rifles chambered for the Winchester 270 cartridge. These rifles with 25 inch, fairly stiff barrels weighed 8¾ pounds without sling or scope. The scopes were 4 power Ziess Zeilvier's in mounts worked over by Neidner to give the lowest possible sight line. There were no slots in the barrel for metallic sights of any kind. This was going the whole hawg for the leading gun writers were still in the high mount, metallic sights available stage.

These were superbly accurate rifles with handloaded ammunition. On one occasion Stanley killed a buck at 375 yards, with me doing the

honors with a 20 power spotting scope. He used 4 cartridges getting 2 hits. This is quite a chunk of country when measured, not guessed. This pair of rifles accounted for 2 bear and 14 deer, two of which were killed in a fairly good rain. The very few times the weather conditions made using the scopes impractical, it was neither fit for man or beast to be out in, anyhow.

At no time did either of these scopes with their low sturdy mounts have any mechanical failure despite the falls and rough handling that are inevitable in the hunting field. Thus I learned early the one cardinal rule in using scope sights successfully in the field. If you are going to use a scope on a rifle, select the proper scope for the job you want it to do, put it in a rugged mount and forget about the metallic sights.

In many years of living in the hunting country I have found two major causes of scope trouble with the average hunter. One is the customer who cannot make up his mind whether to use his scope or metallic sights. So he is continually taking off the scope or putting it back on his rifle. Consequently he not only may get a serious sight error but he never learns to do a good job with either. The other is having either the right scope on the wrong rifle or the right rifle with the wrong scope.

When buying his first scope, the average man is bewildered by the vast number of makes, types and powers of scopes, with an equally amazing number of mounts to put them on. To discuss each scope on the market and select the best suited for every purpose is an impossibility short of a book. So let us look at some of the facts about scopes that will enable the beginner to make a selection, best suited to his needs.

The first thing he encounters is choice of magnification. There are advantages in higher magnification which apparently brings the target closer to the eye. In doing this you are able to identify objects that, without magnification, cannot be determined. In bad backgrounds such as deep, dark woods, this makes for safer as well as more accurate shooting. On the other hand the greater the magnification the smaller the field of view. Also all tremors are magnified by the power of the scope. Try holding a high power scoped rifle in the offhand position and the X hairs apparently dance all over the landscape.

Generally speaking the 2 power scope will have twice the field of view of the 4 power scope. Field of view is sometimes an important factor when shooting at moving game. In varmint shooting where the ranges may stretch out you have plenty of time to assume a solid shooting position and field of view is not so important. Thus 6-8-10 and even higher powered scopes are in popular use for varmints. For competitive target shooting and bench rest work the power runs from 20 power on up.

It is possible to increase the field of view slightly by increasing the size of the lenses in the eye piece. The size of the objective lens has no bearing on the field of view. One of the most confusing and misunderstood facts about scope sights is light. Hold a telescopic sight up to a source of light such as a window or light bulb. With the eye several inches back from the scope, you will see a bright spot of light in the center of the ocular lens. This is the exit pupil and is nothing more than the image of the objective lens. The size of the spot of light is in general dependent upon two important factors—the size of the objective lens and the magnification of the scope. The larger the objective lens, the larger the exit pupil for any given magnification. The greater the mag



Hal H. Harrison Photo

RIGHT SCOPE ON RIGHT RIFLE is combination hard to beat. Coupled with ability to use them skillfully and safely, it means cleaner kills and better hunting.

nification, the smaller the exit pupil.

The diameter of the exit pupil can be calculated by a very simple formula: $\frac{\text{diameter of objective lens}}{\text{magnification}}$ equals diameter of the exit pupil. Actually you may find the exit pupil somewhat smaller than calculated due to some obstruction in the scope design. This cuts out some of the outside rim of the objective image as we see it in the eye piece. The spot of light we see in the exit pupil is the area of light coming through the scope.

If this area is larger than the entrance pupil in our eye, we do not get the benefit of the light at the outer edge of the exit pupil. Let us assume that the exit pupil of the scope is 4 mm in diameter and that under the prevailing light conditions the entrance pupil in our eye is 3 mm. Then 1 mm. of diameter in exit pupil is being wasted under these conditions.

Now assume that evening is approaching and as the light grows dimmer, the entrance pupil in our eye expands. As it expands we get more relative light through the scope. After our entrance pupil expands beyond 4 mm. we get no more relative light because we are using all that comes through the scope.

At dusk when it is really too late to hunt our entrance will expand to about 5 mm. Therefor, it is not practical to have an objective lens that gives us more than a 5 mm. exit pupil.

For example, a 4 power scope with a 20 mm. unobstructed objective lens will give a $\frac{20}{4}$ or a 5 mm. exit pupil. So for a hunting scope there is no light advantage whatever in a larger objective because we are already getting the maximum possible light at very near dark conditions. Going further—the maximum practical size of an unobstructed objective lens of a 6

power scope would be 6x5 or 30 mm.

Another thing that confuses a lot of inexperienced scope buyers when reading manufacturer's specifications are such terms as relative brightness, relative illumination, light intensity and so on with figures quoted for same. While these figures are in the main quite correct, they are seldom understood by the average shooter. They can be very misleading if not completely understood. They are arrived at by simply squaring the exit pupil diameter in millimeters. It is better to see the exit pupil diameter quoted, because it cannot be given one of the fine sounding terms referred to above. Also it enables the buyer to get a clearer picture of what he is buying. The relative brightness or other related term the maker may use has nothing directly to do with the optical quality of the scope.

To sum it up there is no light advantage in an exit pupil of more than 5 mm. or a relative brightness figure of more than 5x5 which equals 25. This is one of the most important points of understanding the prospective buyer should keep in mind.

The eye relief or distance from the ocular lens to the eye is not critical in hunting scopes. The optimum distance where the shooter sees the full field of view is very definite. Most eye relief specifications give a maximum and minimum distance and the scope can be used within these limits. However the full field of view cannot be seen throughout the latitude stated.

Most of the hunting scopes on the market incorporate the windage and elevation adjustments in the barrel of the scope. In recent years there has been some tendency to have the mounts contain the adjustments. The advantages of this type are a smooth tube with no obstructions, added strength and slightly more precise adjustments. For hunting either type is perfectly satisfactory.

. . . To be Continued.

Excellent Shotgun Shooting Handbook Available

All interested persons may obtain a copy of the popular "Handbook on Shotgun Shooting," a 144-page booklet that is designed to assist all sportsmen in attaining real proficiency in shotgun handling, according to the Wildlife Management Institute. Now in its sixth printing, this clearly written and well illustrated handbook is published by the committee on promotional activities of the Sporting Arms and Ammunition Manufacturers' Institute.

The text is more technical than other publications on shotgun shooting, as its purpose is to make a shooter think on the theory that thinking through a course of shooting instruction in advance is just as important as following through with the gun swing in the act of shooting. Important also is the fact that it stresses fundamentals and avoids controversial treatment of those subjects where practical results can be obtained through one of several methods.

In content, the booklet covers shooting style and the application of the described methods, the clay target sports of trap and skeet, how to organize and operate a gun club, and a chapter on game shooting including information on the various species of game animals and field shooting hints.

Copies may be obtained from the Sportsmen's Service Bureau, 250 East 43rd Street, New York 17, New York, at 25 cents each to cover postage and handling.

The Trapper's Camera

By Larry J. Kopp

IF you want to inject an extra challenge, and some additional excitement into normal trapline operations, I would suggest that you try photography.

By this I do not mean that a trapper should quit trapping and devote his time to photography, but I do believe many trappers are missing a good thing by not giving more serious thought to the real value of a camera on the trapline.

Certainly a good photographic record of your trapline activities is a valuable thing to have. Moreover, there is a good chance that you can sell some of your best photos.

Trappers who take a dim view of the latter may be happy to learn that outdoor sport and nature magazines, as well as an increasing number of general magazines are constantly looking for unusual and novel photos of the great outdoors. If this does not convince you that selling good photos has possibilities, then consider too that there are two highly recognized agencies who specialize in selling, on a commission basis, outdoor photos submitted by free lance photographers all over the United States. They are the Photo And Film Department of the National Audubon Society, and the Outdoor Photographer's League.



Photo by the Author

GOOD CAMERA ON TRAPLINE can add much to enjoyment of the outdoors. A photographic record of your trapping activities is a good thing to have.

Obviously a healthy market for good outdoor photos exists, and what's more, the outlook is that the demand for more and better nature photos will gather momentum in the years ahead.

Naturally, as in all other pursuits, there is plenty of competition. On the other hand, I can't think of anyone in a more appropriate position to photograph nature than the trapper. Certainly it would be something worth trying, and preparing for, if you are a serious trapper.

It goes without saying that a good camera will be needed. This does not mean a high priced one however. Actually the important thing is that a good trapline camera must have a focusing lens, and a varying shutter speed. Usually, cameras that have these two features, also have a range of lens openings to compensate for changing light conditions.

In view of the vast variety of



cameras on the market today, it might be helpful to say that the specific make, or type of camera is relatively unimportant.

The two most important qualities that make up a good photo are sharp focus and correct exposure. When one is missing, nothing else matters. Since this is so important, and since complete instructions for proper focusing and exposure are included with all cameras and film, it will suffice to say here that they should be studied very carefully.

The foregoing are the fundamentals which one must master first, but there are other techniques that go to turn out good photos.

Good composition counts a lot, for instance. This means simply that a subject or scene should be arranged so that it is pleasing to the eye. To do this, a photographer moves around a subject, and looks at a scene from different angles through the camera viewfinder until a pleasant view is found. In other words, shooting from just the right angle makes a better photo. And since a view which looks pleasing to you, is bound to look pleasing to other people, this is a good rule to follow.

Feeling, which is technically described by some as depth of field, is an ingredient which has a lot to do with good composition. To shoot a subject that has feeling, the cameraman can shoot it from an angle so that trees or overhanging branches appear in the foreground.

A subject framed between trees or through branches gives the viewer a feeling of looking into the scene, not just at it. Thus it becomes more realistic.

However, this does not mean that all subjects should be framed between appropriate objects in the foreground. In photos where action is supposed to be the important detail, feeling or depth of field as it may be, is of little value in turning out a good photo.

By action, I do not necessarily mean leaping foxes or tail swinging skunks caught in traps! These are good subjects for the personal photo album, but have limited use insofar as commercial purposes are concerned.

There are probably few trappers who do not have such photos; or photos of a season's catch, but what about prospecting and other important phases of trapping?

Since prospecting includes looking for fur sign, a good photo might be one that shows the trapper actually looking for such signs. It could show the trapper looking under a large rock for animal droppings, or looking around a muddy spot for tracks. The point is that it must suggest action, and be authentic. A photo that shows the trapper looking into space with apparently nothing on his mind is not a good prospecting shot.

The same kind of action photos can be taken of the trapper making a set, skinning a catch, or preparing equipment. From the photographic viewpoint, these phases of the trapper's life do not exist as far as the general public knows, because they have been almost wholly overlooked by the trapper with camera in hand.

In addition to these trapline activities, the alert trapper can also find many other opportunities for good photos. Photos of wildlife in natural habitat (not in traps) are always valuable to have. To get such photos, try photographing unwanted animals after releasing them from traps.

In this way I have obtained some of my most interesting wildlife photos. For example, some years ago I found a 'possum caught in one of my fox traps, and oddly enough it was caught in the trap by its tail. This in itself made a good album type photo, but more interesting was the fact that this particular 'possum was rather eager to pose for my camera, and as a result I got some



Photo by the Author

WILDLIFE IN NATURAL HABITAT offers real challenge to outdoor photographers. Pictures like these are hard to get but valuable.

outstanding shots. I say outstanding, because a 'possum does not normally react in a cooperative manner. Instead, they curl up, feign death, and are generally stubborn.

On another occasion I found a nice raccoon in a fox trap, and since I did not think its fur was prime at the time, I decided to releaes it unharmed as usual. However, after I had released the coon, I began to follow it as it ran away, and soon, with a little encouragement on my part, he climbed up into a small pitch pine where I again made some fairly good photos.

If a trapper wants to be really serious, he might try getting portraits and other closeups of foxes. Such photographic studies are not particularly easy to obtain since most wild trapped foxes are shy and sometimes fairly vicious. The best idea is to select one that is comparatively pleasant to get along with. There are such foxes you know! Sharp focus is important, and the best bet would be to rest the camera on a rock or regular tripod. Naturally a closeup lens must be used over the regular camera lens, and I can assure you that getting good closeups is a real challenge, but a most satisfying accomplishment when you succeed.

If you want to get clouds on some of your scenics to create a more pleasing photo, try filters. These colored glasses often mean the difference between a good photo and a poor one, and experimenting with various filters can be very fascinating as well. Usually the yellow filter is the best one for all around use. With filters you can even create moonlight effects during the daytime. To accomplish this, place your subject in the shade so that it is silhouetted against a lighted background and use a red filter. Exposure should be made for the light background, not the subject, and of course by varying the lens opening, you can turn out anything from a silhouette to a moonlight scene.

Along with those things directly concerned with trapping, many other good nature subjects will unfold as the observant trapper follows the trapline. I once found a hornets' nest on a telephone pole. Naturally a hornets nest on a telephone pole is unusual, and since unusual nature objects are always in top demand, it was worth finding.

TIPS ON DOG TRAINING

Every dog has his day! And for Pennsylvania hunting dogs, that day starts on August 1. Keystone State sportsmen who own canine companions are reminded that the dog training season starts on that date and will remain open until March 31, 1956.

Dog trainers are also reminded that, except on publicly-owned land, consent of landowners should be obtained before running your dogs on private property. The Game Law prohibits the carrying of a shotgun or rifle during dog training. Rabbit or bird dogs may be trained from sunrise to 9 p. m., Eastern Standard Time; raccoon dogs from sunrise to midnight. Dogs must be accompanied by and be under the control of their owner or handler. Injury or death may not be inflicted upon birds or animals pursued by dogs in training.

Maine Still Boasts Big Bucks

Heaviest of 1015 deer entered in "The Biggest Bucks In Maine Club" during the 1954 season was a 346-pounder shot by Charles Roth, of Gardiner, Maine. The Maine Development Commission, which sponsored the club annually for hunters who shoot deer of 200 and more pounds, reported a nonresident led 46 female hunters with a 309-pound buck, Carmen C. Hinchiolo of Patchoque, New York.

Forty-three bucks of more than 300 pounds each were among those registered for 1954. In 1953, forty-seven 300-pounders were listed among the 1301 which made the club. The State of Maine awards scarlet and gold shoulder patches for shooting coats and membership cards to those who take bucks estimated at 200 pounds, live weight, each year. This figure is obtained by adding 30 percent to dressed weight. Cards are signed by wardens and weights are attested.

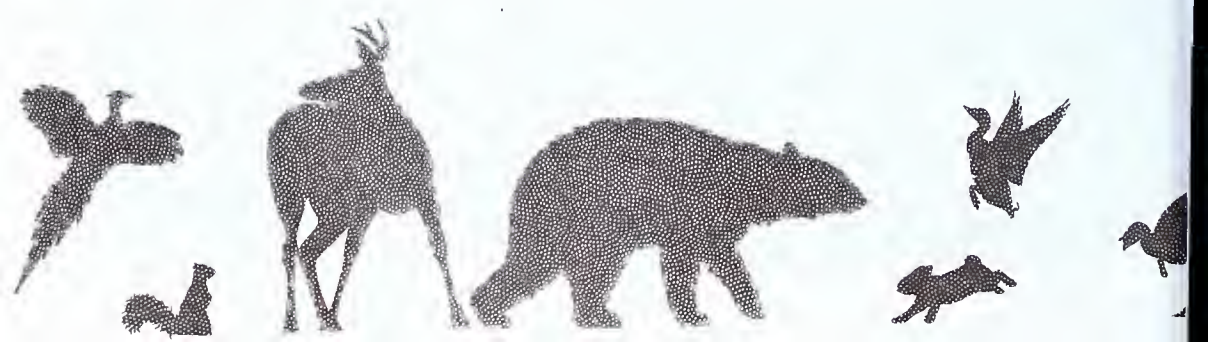
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Game News

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THE STORY BEHIND THE COVER

IF the story behind this month's cover could be told in just one word, that word would no doubt be POINT! For in this one dramatic pose of pointers and setters, you see the result of many centuries of selective breeding to obtain a hunting dog with but one purpose in mind—to locate, pin down and point out his quarry.

Like all hunting dogs, pointers and setters find their game by scent. All wild birds and animals probably leave a trail of scent behind them as they walk or run across the land. Perhaps it may serve as a means of communiction between their kind, perhaps as a defensive measure—no one knows. But to a good bird dog, all that matters is that his nose knows. Given a good brain to back up that nose and a sound body for taking the necessary action, the age-old instincts which characterize the hunting breeds can provide their masters with the canine teamwork so essential to successful gunning. Makes no difference, really, if the dog is but a mongrel pup of uncertain ancestory. As long as he can smell game, react to that stimulus, and locate his quarry, any dog will serve his human hunting companion with more shooting and better shooting.

Despite centuries of selectively breeding dogs to obtain scenting ability, this one factor of a dog's performance still remains almost a complete mystery. Nobody knows how or why a dog scents game; nobody who owns a good hunting dog really cares. But for those who devote their money, care and love on dogs which constantly, or even occasionally, fail to find their game, the unsolved mystery becomes almost an obsession. Vast amounts of time and money are spent on training dogs who "bust" birds, who "back-trail" rabbits, raccoons or foxes, or who fail to find any game in the first place.

But sooner or later, sportsmen who have this all-consuming desire to own and go afield with a good hunting dog will have all their hard work and worries justified as their canine companion "makes game." And for those who own pointers or setters, the sight of a point—statuesque, steady and a thing of still beauty—will be a thrill never forgotten. Then, and only then, will a secret known only to dogs and their Creator be displayed in a style not found in any other living thing.

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EDITORIAL . . .

Protect Your Investment!

FOR the more than fifty years that it has been in business, your Game Commission has been self-supporting. Its revenues are derived primarily from the sale of hunting licenses. And like most business corporations, its investors or licensees can and should expect periodical dividends. Almost a million Pennsylvania sportsmen are about to harvest that dividend for 1955—not in cold cash but in pleasant, healthy recreation which is infinitely more valuable.

Like all successful businesses, we not only plan for this year but also look to the future. Since our only product is the opportunity to hunt, we must plan ahead—first to insure that we never run out of this product and second to make it available to all those who want it. Fortunately, we do not have to create a demand for our wares. The inborn desire of the human race to hunt is as old as man himself; there are no indications that this desire will decrease in the forseeable future.

The availability of our product to our stockholders, however, is an issue of uncertain future. More and more hunting territory is being lost as towns and cities grow, as highways and factories are built and as civilization marches forward across the landscape. These cannot be denied nor would we even suggest that such progress be stopped.

But for each acre now being lost to civilization's advance, there are more acres being lost to hunting through the careless or thoughtless acts of a few stockholders. Thousands of acres of land still producing harvestable game crops have been closed to hunting within recent years. The fence-breakers, careless-shooters, uncourteous guests, fire-bugs and litter-bugs have not only lost places for sport afield now but have also threatened the future sport of all.

Through Cooperative Farm-Game Programs, State Game Lands and other means, we have counter-attacked the problem and have won impressive victories. But these are not enough. The demand for public hunting areas still far exceeds the supply. It will become even greater as time goes on.

The real answer to the problem lies with all our stockholders, all those who use the outdoors each year. They can insure their own dividends only through the measure of their individual actions when afield. Upon them rests the final responsibility of protecting their investment. Their sportsmanship and conduct now, as never before, will determine how much sport they will have this fall—how much their sons will enjoy ten or twenty or fifty years from now.





The Ghost Ducks

By Phil Barske

I'M not a bagged duck, roast duck, broiled duck, pressed duck nor a stuffed duck. No, I'm one of those "ghost ducks" that hover over every shooter and help make the annual waterfowl loss some 25% greater than it should be. In other words, I am a dead duck that does no one any good! Let's take a roll call of ducks that come in for their harps and see what's up.

It is generally estimated from bag



Are Coming Again

Field Representative, Wildlife Management Institute

checks and hunter kill surveys that us ducks suffer a cripple loss over the nation of from 20 to 25% of all ducks bagged. From a total estimated bag of close to twenty million ducks in the United States, we can figure that we lose another five million feather members as cripples. Most of us ducks that get just enough lead to knock us down—do not end up in a ducka-torium for a rest cure. No sir, we end up as dead ducks and usually a meal



for some critter that couldn't get its teeth, claws or paws on us when we were in fighting form.

Checking the boys that come thru the pearly gates (and all ducks go in only one direction) I've learned a few things that could take the curl out of my tail and give me indigestion from a meal of yellow corn and smartweed seeds. Myself, I am a deputy of St. Anas (Duck kind of St. Peter). I got my job by stopping a load of number nine shot as I left a little woods pond in a hurry and tried to get away from a bird shooter who figured "any old target even if I am using light loads and won't wade out in the water if I do knock that old black head." Sure enough, that's what happened to me! I'd already reached my height of the jump and was beginning to head for other parts, when, whango, a stinging crackling of my wing and a plop—down I went, end over teakettle and right into the cattails. "I got him," I heard the critter yell, "but damn it, he fell in the water and I guess I can't get him!"

He didn't want me and I didn't want him. But there I was—a busted wing and an aching head that just wouldn't let me think straight. No rescue service, no hospitalization, and no old age infirmity insurance to look forward to. Rest is what I need and although I should have known better, I just let myself go and went into a deep and exhausted sleep—my aches, pains and fears seemed to vanish as mother nature anesthetized me—but cuss it, it was my last sleep. Little did I know that as I lay asleep, an old snapping turtle was eyeing me for my St. Anas deputy uniform.

My obituary record states, "wounded in flight, left to die and finally dispatched by being dragged below water and ripped to pieces by the jaws and claws of old Mossback."

* * * * *

If ducks could talk and tell the whole story, I believe each and everyone of us that guns for these wonderful critters would give a little more thought to the part that each of us contributes to this partially unwarranted loss of millions of waterfowl.

The annual loss of crippled or unreturned birds is a serious problem and one that is cutting drastically into our breeding stock and into our harvestable crop. It's poor business and a symptom of poor sportsmanship when we allow one fourth of the total annual waterfowl kill to be poured down a rathole.

The total figures for waterfowl cripple loss are not just picked out of the air. Originally cripple losses were guesses, but recent studies by a number of state departments have come up with a set of reliable figures that range from an annual cripple loss of eight percent to 53 percent and in the overall picture average about 25% on a nation-wide basis.

Again these figures, picked from state and federal studies on a nation-wide basis indicate only birds knocked down within sight of the observer and not retrieved! How great the cripple loss would be if we could truly know the total mortality caused by crippled and leaded birds.

Indirectly we can set up a figure that is food for thought in regard to the full extent of cripple loss. We take the figure of an average nation-wide cripple loss of 25%—these are

observable losses. How many birds are leaded, fly off, not observed as cripples but nevertheless doomed to death and adding another unknown figure to harvestable or brood crop. To give some figures, recent x-ray work by William Elder of Missouri and Jim Jordan of Illinois indicate the amount of lead thrown at waterfowl. In a study of 3,638 adult dabblers in Manitoba and Saskatchewan, Elder found through x-ray examination that one of four drake ducks was carrying body shot. Jordan, in Illinois, on a study of some 1,700 birds, found that adult ducks showed an incidence of 35% of body shot—whereas, juvenile birds indicated a level of 14.5% carrying one or more shot pellets. In other words, we have a staggering number of waterfowl that have been mighty close to death's door.

What is the cause of crippling loss, how can it be reduced and who is interested in reducing this loss? Three questions, simple in nature but involving a mighty tough factor to work with, for the one real controlling element is the "human being."

Taking each of the basic questions separately, let's study them for the question asked.

What is the cause of cripple loss? Cripple loss stems from three basic elements—the human, the gun and the target. If there was perfect understanding and coordination between gun and man, the cripple loss might be within reason. Where reason would lie is debatable, but it certainly shouldn't be 25%. We shall always have cripples in all forms of hunting —it's inevitable. But as sportsmen and conservationists, we all want to cut this loss to a minimum. Primary responsibility for this waterfowl wastage rests with the gunner. Here are some of his basic troubles:

1. Trigger Happy Shooting: Just how this habit affects each of us is hard to judge. But I confess I go through a stage of it more often than I care to admit. This situation is your baby—think it over.

2. Inability to Judge Distance: This is probably the greatest cause of avoidable loss. Just why this situation crops up in gunner after gunner is more a question of psychology and lack of shooting experience. The guy who shoots at birds when they are still far out of range, even though he occasionally makes a lucky hit, is not demonstrating skill but rather, complete ignorance of his gun. The "sky shooters" cripple more ducks than all other causes put together.

3. Poor Marksmanship: This hits many of us where it hurts! For ten months, "Old Betsy" sits a'mouldering in the cabinet or in the damp gun case. Then on the first few days or more of the legal open season, we proceed to do our practicing on live birds. Unfortunately, we have just enough "feel" to get the birds in the outside of the shot pattern and it's there we do our damage. One Federal official, who has observed gunners in the field for many years, said that many of the cripples of the first few days are caused by "good" gunners, but "good" gunners who haven't shot since last season.

4. Ability to Judge Effective Range of Modern Shells: Here is a matter that can become a real issue. Modern shells are hard hitting but they are not designed for anti-aircraft work. Nor does the man who purchases a



box of long range shells automatically acquire the skill needed for this type shooting. Correct range and effective killing power of shooting equipment is still essential. "Leading the target" is still the key to clean kills, even if your gun is loaded with super-duper loads. It takes at least three to five pellets of shot in the vital parts of the average duck to bring him down dead. And if you have any doubt about range, pace off 30 yards (consistent killing range), 50 yards (near maximum consistent killing range) and 70 yards (out of consistent killing range). Those distances are far shorter than they seem to appear to many gunners.

5. Failure to Retrieve Birds: The failure to retrieve birds is a cardinal sin. The reasons for it may range from a lack of a retrieving dog to just plain laziness. Many hunters do not own or use dogs, relying on their own resources to retrieve their game. That's all well and good if the bird is stone dead and water conditions are such that either boots or a boat can be used. But the gunner shooting over deep water with neither a boat or dog is a heavy contributor to the cripple loss. It takes will power to shove out after a downed bird, especially when the birds are flying good and there is danger of flaring any incoming ducks. But it must be done. Often, too, early shooting causes too high a cripple loss when the heavy vegetation may hide a dead or wounded bird. The answer here is to mark your birds well, and waste no time in attempting the retrieve.

6. Type of Shooting: Various agencies interested in cutting down on the cripple loss have come up with some facts showing the effect of different types of shooting. Pass Shooting—The highest degree of shooting ability is necessary here. Unfortunately, this type of shooting attracts many inexperienced gunners and thus results in the highest cripple loss. Decoy Shooting—This is generally the favorite type of shooting and is also best suited for the average gunner. If he is reasonably conscientious and backed by a dog, the cripple loss can be held quite low. Jump Shooting—This type is a favorite with many gunners. Because the hunter is constantly on the move, the cripple loss is relatively light.

As individual gunners, our greatest responsibility and obligation is to ourselves—to make ourselves feel and act like real sportsmen. Every real sportsman wants to help conserve wildlife as well as harvest his share. As far as crippled waterfowl is concerned, listen to what the late H. P. Sheldon once said: "I feel that I have an extra moral privilege to speak frankly on this subject. For in the past, I, too, have fired long-range cartridges in a long-range gun at a long-range duck who had nothing to lose but his life and his splendid gift of flight. He had, perhaps, burst through his egg shell well beyond the Arctic Circle on a night when the Northern Lights were sweeping long fingers of cold mysterious fire across the firmament. He saw that, and later, he saw the length of a great continent pass beneath his wings. The Great Slave Lake, the Touissant Marsh where the slow stream of that name empties into Erie; Currituck Sound; the canebrakes, bayous and piney woods of the Deep South, and a winter on a shallow coastal lake in Louisiana. Then northward again to the Circle with a mate, and southward again, until one morning on Mattamuskeet, a far-flung pellet of number four shot smashed the delicate articulation of his right wing and brought him down to skulk helplessly amid the cattails until a mink finally found him. We're not cruel but we are damnably thoughtless."

Go Sign For Canada Geese



Photo-Graphic Arts Photo

By Bob McGill

Outdoors Writer, The Meadville Tribune

THIS Fall more Pennsylvania hunters will have the thrill of matching wits with one of Nature's greatest birds, the Canada goose.

Three years ago the Pennsylvania Game Commission selected the big Crawford County waterfowl refuge at Pymatuning Lake, a widely known haven for thousands of Canadas, as the site for its own goose breeding program.

A few months ago 75 fluffy, yellow Canada goslings were quacking about the refuge, a tribute to the successful project, one which few states have attempted because of the many difficulties involved.

Under the direction of Ray Sickles of Linesville, Game Protector for the Pymatuning area, Robert Latimer, Commission waterfowl coordinator and other experts, 48 Canada geese were hatched, reared and released around the Pymatuning area in 1954.

Duck and goose hunters bagged 26 of the banded birds last fall. Sickles is sure the remaining 22 birds have stayed in the area. The Canada has a very strong nesting tradition, stronger even than the duck. Young birds raised in a particular area will return to that area to mate and raise their own broods.

The Canadas raised in the Commission program will be banded and released at Pymatuning, at Crawford County's other big waterfowl area, the Conneaut Lake outlet marsh where a 550-acre low-level waterfowl lake was dedicated in 1954, and in other large waterfowl areas of the state as the program expands.

Bob Latimer points out that the goose program is twofold. Its first aim was to offset heavy waterfowl gunning pressure at Pymatuning. An unusually heavy bag of Canadian geese several years ago cut into the breeding population which had become well established around Pymatuning and the Conneaut Marsh.

Second aim of the program is to

help establish new geese areas, Latimer reports.

When the program began three years ago, the Game Commission purchased 34 Canadian geese as breeders. Obtaining the big birds and having the proper habitat was only the beginning.

The geese must be three years old before they will mate and produce eggs—one of the reasons few states undertake the project as dividends are a long way off IF everything else goes right.

Once a pair is mated, they remain mated for life unless one of the birds is lost by gunfire, predators or other natural means. Should a bird lose its mate, it may take another later but they often wait a year or more before selecting a new mate, according to Sickles.

Also, the geese will not mate if they are at all closely related. For this reason, Commission personnel planned to sex the unmated birds at the refuge this summer, marking them as ganders or geese with colored leg bands.

Since there are only some 26 mated pair in the 102 adult Canadas at the refuge now, some of the unmated birds may be traded with other states on the theory that they may take mates among the new stock thus obtained.

In addition to the 34 birds purchased the first year, 27 more were bought in the second year. Others now in the refuge "flock" include crippled and injured birds, caught and cared for by Sickles and other district officials. These stayed on at their new home.

Some 90 eggs, the first hatchings this spring, were taken to the nearby Western Game Farm near Cambridge Springs where they were hatched. The young goslings then journeyed to the Commission's "duck farm" on Game Land 213 where they were placed under brooders for about a week. About 36 goslings were successfully hatched and reared from these first eggs.

Of the 55 eggs in the second hatching, 45 goslings were successfully raised, making a total of over 70

SPECIAL PENS for Canada Geese in Game Commission propagation program feature shoreline of Pymatuning Refuge. Here future goslings can take their first swimming lessons.
Photo-Graphic Arts Photo





Photo-Graphic Arts Photo

BOTH GANDER AND GOOSE stick by four-week-old goslings until they are on their own, swimming in pond and foraging for food. Over 70 young birds were raised here this spring.

young birds reared this Spring. Sickles reports that the second clutches of eggs were hatched by their mothers at the Pymatuning refuge.

Incubation, he notes, is a vital part of the program. And he's convinced only special incubation equipment will beat the mother goose's good hatching percentage.

It's notable that the 11 mated pair of Canadas held over from last year all laid two clutches of eggs this year. Birds who mated this year laid only a single clutch of eggs.

The eggs, slightly larger than turkey eggs, are laid in clutches varying from two to nine eggs. The average is about five eggs.

This year special pens extending from the shore about 10 or 15 feet out into the water were used. Goose and gander nest in these pens. When the eggs hatch, the family has swimming lessons in its own front yard.

When nesting was "free" along the refuge shore a year ago, there were many fights among the birds for preferred nesting spots.

The ganders take a strong paternal hand in the rearing of the family, caring for the nest, protecting the young and sharing responsibilities with his mate.

All 102 mature birds at the refuge are banded for identification. Mated pairs have special plastic bands, blue for females, red for males on one leg. An aluminum band on the other leg is numbered and through records officials can determine which birds are mated and what pens they occupied.

Planted about the waterfowl breeding area is some 15 acres of buckwheat, about 30 acres of rye and 20 acres of corn. The rye, in addition to the wheat mentioned earlier, provides excellent pasture for the breeding geese.

But the crops are also for the big flocks that never fail to stop at the refuge on their way south each Fall.

Last year there was 35 acres of rye, 30 of corn and about 25 acres of buckwheat for the birds. Commission personnel knocked down about five acres of the low-eared corn to give the hungry visitors a start. Between 4,000 and 5,000 geese, plus several thousand wild ducks, quickly moved in on that five-acre patch and in about four days had the patch picked clean. They got the idea in a hurry.



PGC Photo by Parlaman

RED, WHITE AND BLUE add color to adult Canada Geese in this project. Here George Wenger, Chairman of Ohio Natural Resources Commission; H. L. Buchanan, vice-president of Pennsylvania Game Commission; and Bob Latimer, Waterfowl Coordinator, inspect new type of leg bands used to identify birds.

In addition to field crops planted by the Game Commission, the Canadas move in and out of the refuge (often just before and after shooting hours) to pasture on fields in the surrounding area.

With its abundant waterways and food, the area is quite an attraction to the geese. And under the goose raising project, more birds are making it a favored breeding spot.

To keep mated brood stock from flying, Sickles and his aids clip pinion wings from adult birds. Others are wing-clipped constantly.

Sometime in the near future, leg bands will be put on the rapidly-growing goslings in preparation for their release. Still later, when the frost is on the ground and the winds have a touch of winter, the canny birds may rise just beyond the stalking hunter or whistle over a disgruntled gunner who missed that split-second opportunity at his Canada—they can do it, too.

GOOSE RAISING STARTS with the nest and so far it looks like Mother Goose has the best incubation equipment for the job. The eggs, slightly larger than turkey eggs, are laid in clutches varying from two to nine eggs, five on the average.

Photo-Graphic Arts Photo





First Fox Hunt

By Bill Walsh

I RODE with Uncle Leo in the cab of the old pick-up truck. Every so often I peered through the rear window to see if the fox-hounds, Betsy and Belle, were still in the back.

"Don't worry about those dogs," Uncle Leo said. "This isn't their first hunt. They'll curl up in the straw until we stop."

But I kept looking back anyway, sometimes to check on the dogs and sometimes to watch the cloud of dust that whirled off the bumpy dirt road as we sped over it. It wasn't the dogs' first fox hunt—but it was mine and I'd been so excited about it I could hardly get to sleep the night before.

In my mind's eye I pictured Belle hot on the heels of a fox, bringing it through the brush toward me. I saw myself raising the shotgun Uncle Leo had given me on my fourteenth birthday a month before. I heard the boom as I pulled the trigger and saw the fox tumble to his death. Then Uncle Leo came up and patted me on the shoulder and told me what a good fox hunter I was—the very first time.

Now everything was for real and we'd soon be hunting in earnest. Uncle Leo slammed on the brakes of the old truck and a huge cloud of dust swirled around us.

"Here's where you get out," he told me. "This fox hunting business takes a little teamwork and I'm putting you on the first team." He shut off the

engine and got out to instruct me.

He took my cased shotgun out of the truck bed, removed the case, and handed me a handful of shells. It was a 20-gauge single shot gun. I loaded it as he had taught me to do, pointing it at the ground away from us, the truck, and the dogs. I snapped it shut and looked to be certain the "safe" was on. It was.

"Now come over here with me," Uncle Leo directed. He took me through a small patch of woods to a clearing that bordered one of his neighbors' pastures. We stopped at the edge of the clearing by a stump that seemed to have been made just the right size to sit on while waiting for a fox to put in its appearance.

"Here's the best fox crossing in the country," Uncle Leo told me. "I want you to sit here without moving, without fussing, without fidgeting, and without even breathing if you can get away with it. When Mr. Fox comes, he'll be hightailing it through here maybe a little bit in a hurry, depending on how far behind the dogs are. But usually, he'll be about ten minutes or so ahead of the dogs—so when you hear old Betsy and Belle for the first time, keep your eyes open."



I promised I would.

"Now I'm going around a couple of squares and put the dogs out. May take me an hour or so to get here but don't you worry if I don't show up right on time. I'll be here. And don't forget to aim in front of the fox a little bit if he's running. Are you sure you won't get lonesome?"

"I'll be all right," I answered.

"That's a good boy," he said. "Good luck!"

With that he turned abruptly and left. In a minute I heard the roar of the engine as he jockeyed the truck down the road. In another minute—only silence.

That is to say it seemed like silence at first. But as I listened, I heard a myriad of sounds. I began to catalog them, trying to identify them. Surely the country in August was not a quiet place—though more peaceful than the blaring noise of the city.

Far away a cowbell tinkled. From another direction a farm dog complained against the restrictions of his leash. A red squirrel chirred in a hemlock off to my right and I slowly turned my head to watch as he came out on a limb and scolded my presence. He knew I was there all right. But if you sit still long enough in the woods, the squirrels will come out and play all around you. Hunters sometimes use that knowledge to shoot them.

A woodpecker beat out a rapid tattoo on a dead chestnut stub nearby. Several times a woods mouse rustled the leaves at my feet as it scurried about its business. These things helped pass the time away.

A dozen times I thought I heard the voices of the dogs sifting through the alleyways of the woods, but it was always my imagination. But when the sound finally materialized there was no mistaking it. A shiver of expectancy shot through me. There is real music in the cry of a hound. I didn't realize that then as much as I do

now. Then it meant only that I might get a chance to shoot my first fox.

Sure enough, I caught a stealthy movement in the underbrush beneath the hemlock limb where the squirrel had perched to scold me. The squirrel was gone now. But a bluejay had observed the fox and had set up a regular series of harsh cries as it flitted from one tree to another.

In a moment the prey was in the clearing, a big, beautiful red-coated fox. It stopped for a moment, lifted one of its black-stockinged front feet, and looked back over its shoulder. It didn't seem afraid. The dogs' bawling still came from far away. I overcame some of my excitement at seeing the animal and slipped the "safe" off the gun, raising it to my cheek.

But I had underestimated the fox. He caught the motion out of the corner of his eye, wheeled in his tracks and sped for the edge of the clearing, resembling a red blur against the background of green leaves and brown woods floor. I fired, but even as I pulled the trigger I knew I had missed. The fox was out of sight now —and I had nothing to do but wait until Uncle Leo came up with the dogs who would follow the trail and find no dead fox. Dejected, I felt that I had failed myself, Uncle Leo, and the dogs.

I inspected the area in which I had last seen the fox, hoping to find a bit of fur or a spot of blood or some evidence to prove that I had not completely missed. But there was none.

Finally the dogs came through, giving me only a quick glance as they contined on the trail of the fox. Shortly after Uncle Leo appeared.

"Well, where is he?" he grinned at me as he came up. "I heard you shoot."

I reached way down inside myself to find my courage and told him, "I missed." I don't know what I expected him to say but it seemed to me that missing the fox was the worst thing I had ever done—or not done.

Uncle Leo's expression changed to one of concern, then he laughed. He put his arm around my shoulder. "Oh, that's tough luck," he said. "I've missed a few right in this same place myself. Saw one a way back when the dogs first jumped a pair of 'em."

"Why didn't you shoot it," I asked. Then for the first time noticed he wasn't carrying his double barrel shotgun.

"Heck, boy," he laughed. "I haven't had the gun out hunting for the past month or two. Don't want to shoot 'em all. Wouln't have any left to hunt, would I?"

I felt a lot better about missing. But I asked him, "Aren't we supposed to kill foxes because they eat rabbits and pheasants?"

"Well, I don't know," he said, pulling at his chin. "Seems to be the reason I hunt foxes is to hear the hounds singing' and to have someplace to go when the weather's right



for being outdoors. I expect the Good Lord gave the fox an appetite for rabbits and foxes because it was the natural thing to do. And I don't ever begrudge a piece of game to a fox that's quick enough to catch it. Besides they eat mostly mice, anyway. And the occasional fox that gets to thievin' chickens can be caught in a trap anytime."

"Never thought of it that way," I admitted.

"Most folks don't," Uncle Leo said looking far off into the sky at a circling hawk. "We've got such a strong spirit of competition in this country—which is all right in its place—that we get to feeling that anything that gets what we want in the woods is in competition against us. The foxes eat the pheasants, the pheasants eat the grasshoppers and other insects as well as the farmer's grain, the insects eat the grain. What's the diffference?" He threw up his hands. "Who cares? The only things I envy the fox are his swiftness and his cunning. I'm not mad at him!"

Well, I forgot about missing the fox. We hunted again the next week and I killed one, a young male with a fine coat. I still have the tail I kept for a trophy. I've killed a lot of others since then. But sometimes, even when I have a loaded gun in my hands, I let one slip by in the underbrush, apologizing to the dogs under my breath. And I think of Uncle Leo and smile.

STATE HIGHWAY MAP ANSWERS SPORTSMEN'S WISHES

The new official map of Pennsylvania, issued for free distribution, will be highly acceptable to outdoors-minded people as well as motorists. The tip-off is on the cover on which are listed, under the name of Governor George M. Leader, the Department of Highways, the Department of Forests and Waters and the Game Commission.

Opened out, the map, an innovation among road guides, carries in color combinations and shadings the locations of State Game Lands, State Game Farms, State Forest Lands, State parks and picnic areas, the Allegheny National Forest, and State Fish Hatcheries.

MARSH DAM DEVELOPMENTS

The Game Commission's small marsh program, inaugurated in March of 1953, was devised principally to provide water and marsh areas suitable for wild waterfowl. A June report reveals that of numerous sites surveyed as possible impoundment areas some were eliminated because construction was not feasible or would be too costly.

However, nine sites were selected. Four were on State Game Lands No. 28, Elk County, and five on adjoining Allegheny National Forest lands. Construction started in May, 1954. The four impoundments on State Game Lands and one on the National Forest were completed last year. This year work was started in May. Plans call for the completion of the four remaining dams, plus three others at least, in the same vicinity in 1955. Further surveys are being made to locate desirable sites in other sections of the state, especially in the northern part.

The completed projects above-described are in addition to the 550-acre lake created last summer in the Conneaut Marsh, on State Game Lands No. 213 in Crawford County. This impoundment was the result of excellent cooperation from the Department of Highways.



Hal H. Harrison Photo

SKIN TUMORS are occasionally found on Pennsylvania deer. Non-malignant, they are usually not fatal but often interfere with vision, eating and breathing.

Common Diseases and Parasites Of Wild Animals

By Roger M. Latham

Chief, Wildlife Research Division

EVERY year Pennsylvania hunters and trappers take some kinds of game or furbearers which obviously have something wrong with them. A mink may be covered with ticks, or a cottontail crawling with fleas, or perhaps a flat-bodied fly leaves a grouse and crawls crab-like through the hunter's hair. Or maybe the body cavity of his cottontail is full of little round blobs of some substance which looks like cooked tapioca. Or even worse, the flesh of a deer may be full of long, white threadworms. Sometimes, you may find large, black wart-like tumors over the skin of your deer. So the letters come to Harrisburg asking "What's the matter with this animal I shot? Is it fit to eat? Can anything be done about it?" We hope this article will help to answer a lot of those letters, and provide some peace of mind for many hunters. Most of these diseases and ailments aren't really dangerous to humans so don't throw away good meat until

you've studied the descriptions below.

Cottontail Rabbits

We may as well take the cottontail first since it's our most popular game animal. This rabbit has more than his share of diseases and parasites, but fortunately few of them in Pennsylvania are harmful to humans.

Probably the condition which causes the greatest amount of concern and wasted rabbits is caused by infestations of the dog tapeworm *(Cysticereus pisiformes).* Four out of five rabbits may have larvae (the immature worm) in the body cavity. The hunter sees them as many white, shiny bladders (cooked tapioca or frog egg effect) among the intestines and imbedded in the liver. The rabbit picks up the tapeworm eggs on grass or other vegetation which has been contaminated by the feces of dogs. Of course, this can happen only if the dog has one or more adult tapeworms itself.

The eggs hatch in the digestive tract of the rabbit and the tiny larvae bore through the walls of the intestines and into the body cavity and remain in a resting state. The cottontail is merely an intermediate host of this tapeworm, and is ordinarily not seriously affected by its presence. The larvae do not enter the muscles and in no way spoil the animal for human food. Merely by washing the meat well, all traces of this parasite can be removed.

However, it may be different with your dog. If you are careless and let him eat the liver or intestines, some of these larvae may develop into the mature tapeworms. These long, white, segmented worms will likely cause your dog to become thin and unthrifty, and treatment will be required to get rid of the unwelcome boarders. And in the meantime your dog will spread tapeworm eggs to infest more rabbits.

COMMON IN COTTONTAILS is the dog tapeworm. This is the liver of a rabbit infested with these parasites. White arrows indicate the bladder encased tapeworm larvae; black arrows show white scars left by migrating larvae.

Photo Courtesy N. Y. State Cons. Dept.





Photo Courtesy N. Y. State Cons. Dept.

RARELY FOUND IN PENNSYLVANIA RABBITS, but the cottontail disease most dangerous to humans, is tularemia. Here is how the liver of an infected rabbit appears. It is usually covered with hundreds of tiny white spots, pin-head in size.

Even as late as November, a fair number of the cottontails shot may have good-sized lumps under the skin, particularly around the neck region. Inside these lumps can be found a black, segmented worm covered with tiny bristles. It will be about an inch long and five-eighths of an inch wide. This is the rabbit bot fly larvae *(Cuterebra cuniculi)* commonly called warble or grub. Later it will drop to the ground, go into the resting stage (pupate), and hatch into an adult fly in the spring. The adult fly will complete the cycle by laying her eggs on the hair of the rabbit.

Sometimes the warbles have already left the rabbit by the time it is killed by the hunter, and only the empty pockets remain. These occasionally get infected and may contain some pus. At any rate, these do not affect the eating qualities of the rabbit and will be removed when the animal is skinned. Sometimes it may be necessary to cut away a bit of flesh immediately beneath one of these bot pockets.

Although of comparatively rare occurrence, the cottontail disease most dangerous to humans is tularemia, caused by the bacteria *Pasteurella tularensis*. Few Pennsylvania rabbits appear to be infected, but, nevertheless, it is a potential threat to anyone who handles these animals. A few human cases are reported every year, and some of these can be traced to hunting season kills.

Whereas a rabbit's liver with tapeworm larvae imbedded in it will have a few large white spots, the liver of a cottontail with tularemia will usually be covered with hundreds of tiny white spots of pin-head size. An infected animal is also likely to be sick and weak and may not run readily. It may even stagger and fall over once it starts to run. Rabbits which behave in this manner should not be handled, but should be buried by the hunter.

If a hunter should find one with a liver covered with very thin white or gray spots, he should discard it and very carefully wash and disinfect his hands. For the man who wishes to take no chances, rubber gloves can be worn for cleaning his kill.

Rocky Mountain spotted fever is another disease which has been found in eastern cottontails. This is usually transmitted to humans by the bite of a woodtick which has fed upon an infected rabbit or other animal. Most ticks leave our Pennsylvania rabbits by late spring, so that there is little chance that a human could be infected in the hunting season in this manner.

Although there are many other miscellaneous diseases and parasites of cottontails, including fleas and ticks, only one other will be described. Rabbits which have soft, pinkish warts or tumors on their feet and faces probably have *Shope's fibroma*. This is a virus disease, spread by mosquitos and perhaps mites and ticks, which is very closely related to the virus of myxomatosis—the disease which has been so effective in the control of the European rabbit in Australia and which has spread through rabbits in western Europe just recently. Rabbits with Shope's fibroma are good for food and should not be discarded.

White-tailed Deer

The next most popular game animal in Pennsylvania is probably the deer. It seems to have fewer troubles than the cottontail, but it still has plenty. At the present time, Pennsylvania deer are not known to carry any diseases harmful to humans. In fact, deer diseases appear to be relatively unimportant in this state, and, outside of a few mysterious and unexplained deaths, there have been no serious losses. Western and southern deer do not fare so well.

But our deer have their share of parasites. Just within the past two years, an occasional deer has been shot with threadworms *(Wehrdikmansi cervipedis)* distributed through the muscle tissues of the body. This worm, about three to five inches long and threadlike, may be found by the hundreds in the meat. If well cooked, the meat is probably harmless, but a badly infested piece would hardly be appetizing. This parasite is probably carried to the deer by the bite of one of the small black flies.

A parasite which seems to be the cause of some mortality in deer, especially in combination with poor physical condition resulting from malnutrition in late winter, is the nasal bot fly, *(Cephenomyia phobifer)*. The adult flies fly into the nostrils of the deer during the summer and lay their eggs. The eggs hatch and the tiny larvae move back into the nasal passages where they feed upon mucous. By spring they have grown to an inch or more in length and are yellowish to buff in color. They then are sneezed out of the passages, pupate in the ground, and hatch into adult flies in a month or two.

Although common, few hunters see these grubs because they are still small in December and because it is necessary to chop the head open to find them.

Skin tumors quite similar to Shope's fibroma in cottontails are found on deer. Sometimes these black to dark gray masses may be as big as a basketball and can be found on nearly any part of the body. Quite a few deer have been killed where the entire face and head was covered with these tumors of various sizes. Usually they are not fatal in themselves, but these growths often do interfere with vision, eating, and breathing. The tumors may be of two kinds—*papilloma* and *fibroma,* neither of which is ordinarily malignant.

A new external parasite found on both deer and elk has appeared within the past few years. It has been

tentatively identified as the European ked fly *(Lipoptena sp.)*. This wingless fly resembles the louse fly of grouse, hawks, and owls somewhat and is closely related to it. In early fall in northcentral Pennsylvania this parasite will be flying around in large numbers and will light on hunters and even bite. When these winged forms light on a deer or elk, they promptly kick off their wings and burrow into the hair for a long stay.

Bears

While we are on big game animals, we may as well mention the bear. It seems to have few noticeable diseases or parasites, but one can be seriously dangerous to humans. A case of *trichinosis* was reported following this past bear season in Pennsylvania which was believed to have resulted from the victim eating improperly cooked bear meat. The embryos of the *Trichinella spiralis* worm are found in the form of tiny cysts in the muscle tissue of infested animals, particularly hogs. When this meat is not cooked thoroughly, some of these living organisms may survive and cause severe illness or death to the person eating it. Don't eat your bear steaks rare!

Raccoons

Within the past several years, an irregular epidemic has struck the raccoons in this State. There has been a pronounced die-off in several regions, but so far it has not been sufficiently severe to create a noticeable scarcity in most areas. The affected raccoons may be found almost anywhere in the daytime. Most of them seem to have lost their fear of humans or are too ill to care. Quite often they will sit or lie on the ground, shivering and shaking, and appear to be too weak to run away. Living and dead specimens taken to laboratories here in the East have shown distemper in many cases, and virus jaundice and Leptospirosis in others. So far, it has not been determined which of the above diseases is most prevalent in our present epidemic.



MANGE IN RED FOXES is caused by tiny mites which get in and on the skin. Young foxes are particularly susceptible to this disease.

Foxes

Rabies is the most spectacular disease among the foxes and pecularily enough, the grays seem to be much more susceptible than the reds. Rabies is by no means confined to foxes, but occurs in humans (hydrophobia), cattle, dogs, horses, cats, skunks, raccoons, bats, and many others including poultry. Rabies is caused by a virus which cannot pass through unbroken skin or mucous membrane and will not penetrate a wound more than twenty-four hours old. Infection is usually passed from one animal to another or from an animal to a human through biting. Infection is passed only if the bite is deep enough to reach nerve tissue. The virus grows only in nervous tissue but does enter the mouth of an infected animal by means of the saliva. The saliva is the means of transmitting the virus when the animal bites.

There is no known cure for rabies once symptoms develop. The Pasteur treatment acts as a preventive measure if the series of injections are taken within a short time after exposure. This treatment must be given whenever there is the slightest proof that a human has been bitten by a rabid

animal. Positive immunization against rabies can be administered in a single dose for dogs, and all dog owners in areas where rabies is reported should have their dog immunized.

Foxes, when rabid, lose their fear of humans and dogs will attack and bite nearly any living thing. Losses in cattle and horses bitten by rabid foxes are often high. In the later stages, foxes will stagger and fall over on the ground, and finally death from paralysis will occur.

Mange is the other important ailment of foxes in Pennsylvania. This is caused by tiny mites *(Sarcoptes scabiei vulpis)* which get in and on the skin. The constant irritation causes a flow of serum and blood which forms large scabs on the body surface. A fox with advanced mange will be practically hairless, and be very scabby over the head, legs, and tail. Oftentimes the tail and ears may be completely obscured by these large, rough deposits, and the fleshy part of the tail may be nearly twice normal size.

Unlike rabies which is most prevalent in gray foxes, mange attacks the red fox almost exclusively. Rarely is a mangy gray fox reported, and then there is some doubt as to whether the condition might be a form of eczema or some other skin irritation. In Pennsylvania the incidence of mange seems to be related to the number of foxes—the more foxes the greater number of mange cases. Young foxes are particularly susceptible to mange, and usually all pups living in an infested den will die at an early age. Older foxes will become so weak from the condition that they are often forced to turn to barnyard fowl for food because they can no longer catch their normal wild prey. Thus, many are killed with a convenient shovel, pitch fork or other farm tool by the farmer when the sick animal is attempting to catch a chicken or duck.

Fox hunting clubs sometimes fumigate or destroy dens known to be infested with mange mite.

Once in a long while, a trapper or hunter takes a fox which has peculiar looking fur. It is composed entirely of the short, wooly underfur and lacks completely any of the long guard hairs which give the pelt color and lustre. These are known as samson foxes and the condition is believed to be hereditary in nature. They are usually less capable of catching wild prey than normal foxes, and will often come to the vicinity of the barnyard to live. Here they take easily caught poultry and scavenge on any carrion or waste food which might be a by-product of the farm. Recently ideas have been advanced as to other possible causes of this wooliness: parasitic worms in the alimentary canal; poisoning in the embryonic stage; degeneration of the endocrine glands; or a lack of certain amino-acids as a result of a vegetable diet.

Beavers and Muskrats

Muskrats are subject to periodic decimation from one disease or another. Little work has been done in this state on this problem, but it appears that a bacterial disease known as *Errington's disease* is mainly responsible for this mortality. Large numbers of dead muskrats have been found in some sections of the State during the past few years.

In parts of Canada and certain midwestern and western states, *tularemi* has been found to be the cause of widespread destruction among beavers. This large furbearer was considered to be comparatively disease-free until recent years. A few unexplained beaver deaths in Pennsylvania had certain indications that tularemia might have been the cause. Muskrats and rabbits are also vulnerable to this disease.

Minks

One of the few ailments affecting



DISEASE CONTROL for blackhead in wild turkeys has been started on experimental basis by Game Commission. Here technicians remove caeca of young turkey poults raised at Commission's wild turkey farm. Operations doesn't injure birds nor interfere later with normal habits.

minks is parasitism by ticks. These flat-bodied, white to gray pests are sometimes found on these animals by the hundreds. They cut off the long guard hairs and leave patches of short underfur which ruins the value of the pelt. Even the skin side of the pelt may be marked with many tiny black spots where the tick had buried its head-parts in the skin. A mink thus infested is known as a "cotton mink" to the fur trade and is nearly valueless.

Wild game birds also have their share of diseases and parasites. Some of these cause considerable mortality, and may seriously affect the hunter's bag in some cases.

Wild Turkey

The outstanding wild turkey disease is called blackhead or enterohepatitis and is caused by the protozoa *(Histomonas meleagridis)*, a microscopic animal. The turkey picks up the germ by eating food or soil contaminated by the droppings from other turkeys or domestic poultry which already have the disease. Regularly these tiny protozoa are passed inside the eggs of cecal worms and with this protection they may continue to be a source of infection in the soil for months or even years. The centers of infection are the two caeca which are attached to the intestine and are sometimes called the "blind pouches." This is also the home of the cecal worm, and there seems to be a close association between the presence of these worms and infection with blackhead.

The diseased bird will become emaciated, droop its wings almost to the ground, and walk with a staggering gait in the final stages. When opened, the liver will usually be covered with several white to yellowish lesions. The caeca will be enlarged, inflamed, and filled with a cheesy core. The droppings are a sulphur yellow.

Light to moderate losses from blackhead are known to occur both in the wild birds and in newly released game farm stock. Infection in

the wild often comes from the turkeys feeding in farm fields. There they may use the same grounds occupied by chickens or other domestic poultry or feed through fields fertilized with chicken manure. At the present time, the Game Commission is conducting experiments directed toward controlling this disease.

Wild Ducks

Botulism is a condition encountered almost every year in Pennsylvania waterfowl. Usually the outbreak is restricted to a single pond or portion of a stream but sometimes a good number of ducks may die. Botulism is caused by a poison produced by a bacteria, usually *Clostridium botulinium,* found in decaying animal or vegetable matter. The bacteria themselves are not harmful, but the toxin they produce is exceedingly powerful. When water is polluted with carrion or rotting vegetation, or the ducks feed upon rotted meat, the symptoms may develop. The birds become weak and lose their ability to walk; also the head hangs to the ground giving rise to the common name "limberneck." About the only thing to do once birds begin to die is to remove the pollution or livetrap and move the ducks.

The second duck and goose ailment which might be encountered occasionally in Pennsylvania is lead poisoning. Many hunters believe that this is caused by lead shot embedded in the muscles or internals of the duck, but actually it comes from these waterfowl eating the lead shot. Over marsh areas where many thousands of shotgun shells may be fired at ducks, the mud at the bottom will

LIMBERNECK DUCKS are quite often found in Pennsylvania. More accurately called "botulism," the disease is caused by a poison produced in decaying animal or vegetable matter associated with stagnant waters.



contain many millions of lead shot. These are scooped up by the ducks when feeding, and a very few may cause death.

Doves

Particularly in the South, but also in Pennsylvania, many doves die of a disease known as trichomoniasis. This is caused by microscopic protozoa called *Trichomonas columbidae*. Also called "roup" and "frounce" it may occur in hawks, chickens, turkeys, pigeons, and other birds. The disease is spread from adult to young when the parent bird feeds the nestlings the "pigeon milk" from her crop. It is passed from one adult to another when a large number of birds use the same feeding or watering areas.

A diseased dove in the later stages has a mass of yellowish, cheesy material in its mouth, throat, sinuses, and crop. Inside its body cavity will be found more of these caseous lesions, sometimes called "yellow buttons." A number of deaths from this cause have been recorded for Pennsylvania during the past two or three years.

Ruffed Grouse

The "crash" of grouse populations during the ten-year cycle of this bird has been attributed to various diseases and parasites by different investigators. There appears to be little foundation to support this theory. While it is possible that disease may be responsible for shortening the final hours of an individual bird, the really important question concerns the force or forces which cause the grouse to become more susceptible to the diseases or parasites or which cause the disease organisms or parasites to become more virulent, more active, or more abundant at one time than at another time.

The louse fly *(Lynchia americana)* is a common parasite found on grouse, owls, hawks, and sometimes other birds. This parasite is about one-half inch long, and has a flattened brownish to grayish body. This is a true fly adapted to a parasitic life. Because they leave the body of the grouse almost immediately upon death, the hunter may find these flies lighting upon his head or neck and crawling crablike over his skin. They will not stay on a human, but they may annoy the hunter by returning several times if not killed. "Slapping" does not dismay these tough-bodied insects in the least.

Many, many more irregular and incidental diseases and parasites could be mentioned and described for various other game birds and the mammals, too. Bobwhites, pheasants, wild turkeys and other birds reared at game farms are subject to many diseases not usually encountered in the wild, at least not in epidemic form. On the game farms, nearly constant medication is necessary to be successful in propagation.

In different parts of the country, or sometimes in different parts of the same state, there may exist strains of viruses, bacteria, or protozoa which are more virulent or more infective than strains found in other areas. Sometimes a native game animal can build up an immunity to a particular strain of disease germ through many generations, but will be susceptible to another strain of the same germ. This has been demonstrated in humans over and over again for many different ailments. Influenza is a notable example.

Because of this, the introduction of game animals from other areas is always fraught with the danger that they may bring along some new disease, or new strain of an old disease, and create havoc among the native birds or mammals.

No Business Like Bear Business

By Leslie H. Wood

Pennsylvania Game Protector



ALONG the headwaters of Kettle Creek the long beech ridges, laurel thickets and dense stands of hemlock make what must be a near paradise for the bears. It has been home to the black bruins since the first settlers hacked their farms out of this wilderness, then known as the Black Forest. Claw marks scar the trunks of hundreds of beech trees where hungry bears have climbed up to shake down beechnuts. Although far less plentiful than in former years a good many bears still call it home.

It was in one of these heavily timbered valleys known as Billings Branch that I had one of many interesting experiences with bears. I had been hunting squirrels but it was a dark dreary day and the squirrels were not moving. As I was plodding along upstream heading for my car, I came to a tiny clearing on the south bank of the stream. There was no cover but frost-killed grass and weeds and one lone hemlock tree. As I swung up into the clearing, a grouse pitched out of the tree in a downward swoop and in my haste I made a complete miss. The blast of the old single-barrel 12 gauge in the silence of that remote valley was enough to wake the dead. It sounded like a cannon going off!

I reloaded and waited a few minutes hoping another grouse might give me a chance to bolster my deflated ego. Nothing happened. I started on up the hillside and had barely taken a half-dozen steps when a cub got up a few yards ahead. He stretched and yawned lazily but didn't bother to even look my way. I thought, "Well, the old lady must not be far away." Just then she raised her head from where she lay curled up in a little hollow less than twenty yards in front of me.

Another cub got up six feet to the right of her. Still the old girl lay there. Just beyond her a yearling materialized out of the grass and stood looking intently toward an old log just back of the first cub. I thought, "What goes on? Must be the old lady has been shot and can't get up." I stood there and watched her a long time but could see nothing wrong with her. At last she got slowly to her feet, looked reproachfully at me as if to say, "We'll make room for you this time but don't let it happen again," and the whole troop started for the woods. But wait! Here came another yearling stumbling sleepily from behind the old log to join the others in a dignified exit into the timber.

It has been said that not enough is known about black bears so that one can say definitely whether they have cubs every year or only every two years. I don't know either but after that experience I can make a little better guess.

One clear cold December day I was snowshoeing down the backbone of a ridge and came upon the tracks of a big bear going the same way. For lack of anything better to do, I followed him to see if I could learn anything new. What I learned was plenty.

He soon turned abruptly to the right and went straight down the south slope a couple hundred feet. Here he stopped and tramped around in a small circle like he was looking for something. Not finding it he retraced his steps back to the original line of travel. After a bit he again turned and went down the sunny side of the hill about the same distance he had before. This time he found what he was looking for. It was a cradle-knoll with a nice deep depression back of it—a made-to-order place for a bed. But the snow was deep and cold and contrary to general belief a bear is pretty thinly furred on his underparts, even in winter.

A few feet below the cradle-knoll was the burned-out shell of an old

pine stump. He went down and broke off a slab of that dry pine roughly a foot and a half by two feet and brought it up and laid it crosswise in the depression. Then he got another slab and placed it beside the first one. The next piece was a little too sound and wouldn't break off but he left his teeth-marks in it where he gave it a good try. A little farther around was one he could get. He brought it up and put it beside the others. He now had a good dry place to lie down, good enough that is for most bears but our hero was no ordinary bear. Over to the right a few yards was a thicket of beech brush with the dry leaves still hanging on. He went over and stripped off mouthfuls of these dry leaves and covered the pine slabs. He made so many trips he had a good path where he traveled back and forth.

When it was all fixed up to suit him, he lay down for a much-needed snooze. But the fates were against him. Before he was fairly settled he saw me coming and had to get out of there. He walked over to the left into a small patch of laurel where he was out of my sight and there he stood within forty feet of me while I was making a thorough survey of the whole amazing project. I suppose he thought I would go on down the hill and let him go back to bed—but no such luck. When I went on I took his track again and as I went in one side of the laurel patch he went out the other, loping down the mountain and across the valley.

Bears don't like me. I'm always disturbing their domestic tranquility. I suppose building a bed like that comes under the heading of instinct but all the evidence here showed that he remembered that place. He had probably noticed it some time in his travels and figured it would be a good place if he ever got caught in deep snows.

When animals do the same thing in the same way for a thousand generations it gets to be instinct. Humans build their houses with peaked roofs to shed rain and snow. I can imagine a bear telling her cubs, "That's pure instinct—no reasoning power at all."

When bears get to killing sheep or destroying beehives we have to trap them and move them far back in the mountains away from temptation. For this purpose we use box traps with a door in one end that slides up and down in iron channels and drops into a similar channel at the bottom.

When I built my trap, I drilled a small hole near the bottom of the door so when it was raised up the trip-rod could be inserted into this hole to hold it open. As an extra precaution I bushed this hole with a small piece of iron pipe driven in tight and flush with the inside of the door. One bear I caught must have known the details of construction as well as I did. He knew that tiny hole was the key to his freedom and he went to work on that one weakness. After a great amount of effort, as evidenced by the claw marks around the hole, he was able to get the tip of one claw into the hole. He had to wor kwith his paw turned half around and apply pressure away from him and upward, something surely no bear had ever been called on to do before. After he lifted the heavy door out of the channel he had to use his other paw to push it on up.

It's a wonder he didn't leave a note razzing me for trying to hold a bear in a trap like that.

I don't know yet how he knew enough to get out but after forty years of living with 'em, I won't be surprised at what happens next—and no telling when it might be.



Gray Foxes Are Not Welcome

Dear Sir:

From time to time, this old idea crops up that gray foxes are being introduced into southeastern Pennsylvania by members of organized foxhunting clubs. I can assure you that if, as the bounty figures for May indicate, gray foxes do outnumber red foxes in this section, no group of people regret this more than do the mounted foxhunters. The last thing they would do would be to endeavor to increase the number of gray foxes in their hunting areas.

Some of the reasons why mounted foxhunters have no use for gray foxes are:

1. They are more pugnacious than the red fox and tend to drive the red foxes out of any given section in which they live.

2. They are a nuisance to hunt with foxhounds. They circle interminably amid brush and briars and are loath to leave the protection of such cover. I can't say that I blame them much for this since any good pack of foxhounds on a fair scenting day can run one down in a half mile if he takes to the open country. If hounds persist to hunt in cover, he will go to earth or climb a tree. In fact, he is likely to do this the moment he knows that hounds have entered the cover to hunt for him. You will readily see that a field of mounted foxhunters who are out for a gallop across country can get no pleasure at all from such a hunt. The pursuit of a gray fox is more like a rat hunt than a fox hunt.

3. Last, and perhaps most important, a gray fox frequently spoils a good straightaway run which a pack of hounds may be having after a red fox. While the pack is in pursuit of the red, a gray may jump up out of a thicket right in front of them and the pack will be carried off the line of the red fox and become involved in a hassle as above described. By the time the huntsman can collect them, the scent of the red fox has faded away.

Sincerely yours,
GILBERT MATHER
Philadelphia

Red Fox—Red Face

Dear Editor:

The photograph that appeared on page 60 of your July issue and the caption stating that the State Trooper is holding a "red" fox brings up a matter that I think should be clarified for Pennsylvania sportsmen and others.

Of course this is not a red fox—it is a typical gray. The red fox has black markings down its legs and a white tip on the end of its tail, regardless of whether he is a cross fox or a black fox (which are just variations of the red color). The gray has orange markings down its legs and throats which seem to fool people and make them think that the gray is a red. The two species hate each other and do not ever cross in the natural state as far as I know. If given an opportunity, the grays kill the reds.

The grays, of course, are the natural wild fox of eastern Pennsylvania; the reds for the most part having originally been imported from England for sporting purposes. Therefore, the eastern Pennsylvania red fox is different from the American red fox. On my own farm at Bethayres, I now have a number of grays who have run out the reds. Unlike the reds, they are as bad as cats at raiding the garbage pail

at night. The red is much more shy and much less apt to come near the chicken coop. The grays that I have hunted for the last fifty years from Pennsylvania and New Jersey all the way down to Florida are not much good for sporting purposes. They circle like a rabbit and climb trees or run into holes all too quickly.

Sincerely yours,
JOSEPH W. LIPPINCOTT
Philadelphia

Tragedy of the Wild

Dear Editor:

Enclosed please find pictures which I took during the month of November, 1954 in the Mix Run section of Elk County.

There were several aspen trees in this particular area and about five small beaver dams. The aspens were tied together at their tops with grape vines and were located on a steep hill about 50 yards from the larger dam.

By reconstructing the incident which led to these pictures, it appeared to me that a beaver had partly cut the tree and then left it to be felled by the wind, a common practice with beavers. The grape vines would not permit the tree to fall, however, and I assume the beaver returned the following night and decided the tree would require a complete cut.

As the beaver cut at the tree, the animal evidently made the cut all the way through. As the top slipped off the pointed base section, it struck the beaver in the chest, knocking him to the ground on his back. The point of the top section pinned the beaver there and held it securely. On the left side of the beaver, the ground was dug about a foot into the hill where the trapped animal had struggled in an attempt to get free.

I examined the beaver closely and could find no marks other than a bruise on its foot. Here is one of the pitiful happenings in the outdoors dealing with wildlife's eternal struggle for existence. I am convinced this beaver finally starved to death. What a pity that one of its helpers did not find him and assist in releasing the valuable and interesting furbearer from its self-made trap.

Sincerely,
L. L. Logan
District Game Protector
St. Marys



A Sportsman's Guide To . . .

Carbon County

Fifty-third In a Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Carbon County contains 260,032 acres of which 204,941 acres are forest land. Publicly owned land totals 39,660 acres including 24,869 acres of State Game Lands.

Topography

The Lehigh River, which about equally divides the county, was improved after 1818 to make it navigable. This was done by means of dams which artificially raised the water level of the river to permit use of barges and arks. Because of some splendid, rugged mountain scenery the area around Mauch Chunk (now named Jim Thorpe) has been called "The Switzerland of America."

Transportation

Railroad transportation is furnished by the Lehigh Valley, the Central Railroad of New Jersey, and the Lehigh & New England lines. U. S. Routes 209 and 309 traverse the county, which has 253 miles of improved State highways.

District Game Protectors

District Game Protector Duane E. Lettie, 127 Carbon Street, Weatherly (Phone: 3397) is assigned to the following townships: Banks, Ausanne, Lehigh, Packer, Mauch Chunk, Mahoning.

District Game Protector William E. Fulmer, 327 Mahoning Street, Lehighton (Phone: 306M) is assigned to the following townships: Penn Forest, Franklin, Towamensing, Lower Towamensing.

Fish Warden

Fish Warden Paul F. O'Brien, 1105 Center Street, Jim Thorpe, is assigned to this county by the Pennsylvania Fish Commission.

Agriculture

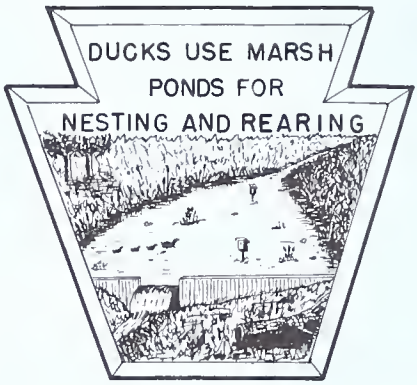
Carbon county has only about 700 farms, but diversified farming is highly productive. Principal agricultural products include dairy products, potatoes, hay and grains.

Industry

Manufacture of metal and metal products is the leading industry. Mining is in second place with six major anthracite mines in the county. Chief products include ferro alloys, zinc smelting and refining, anthracite. women's and children's clothing, silk and rayon yarns and threads.

History

Carbon county was named for its principal product and was formed on March 13, 1843 from parts of Northampton and Monroe counties. The name, derived from the large anthracite coal deposits, was most appro-



L U Z E R N E

C O U

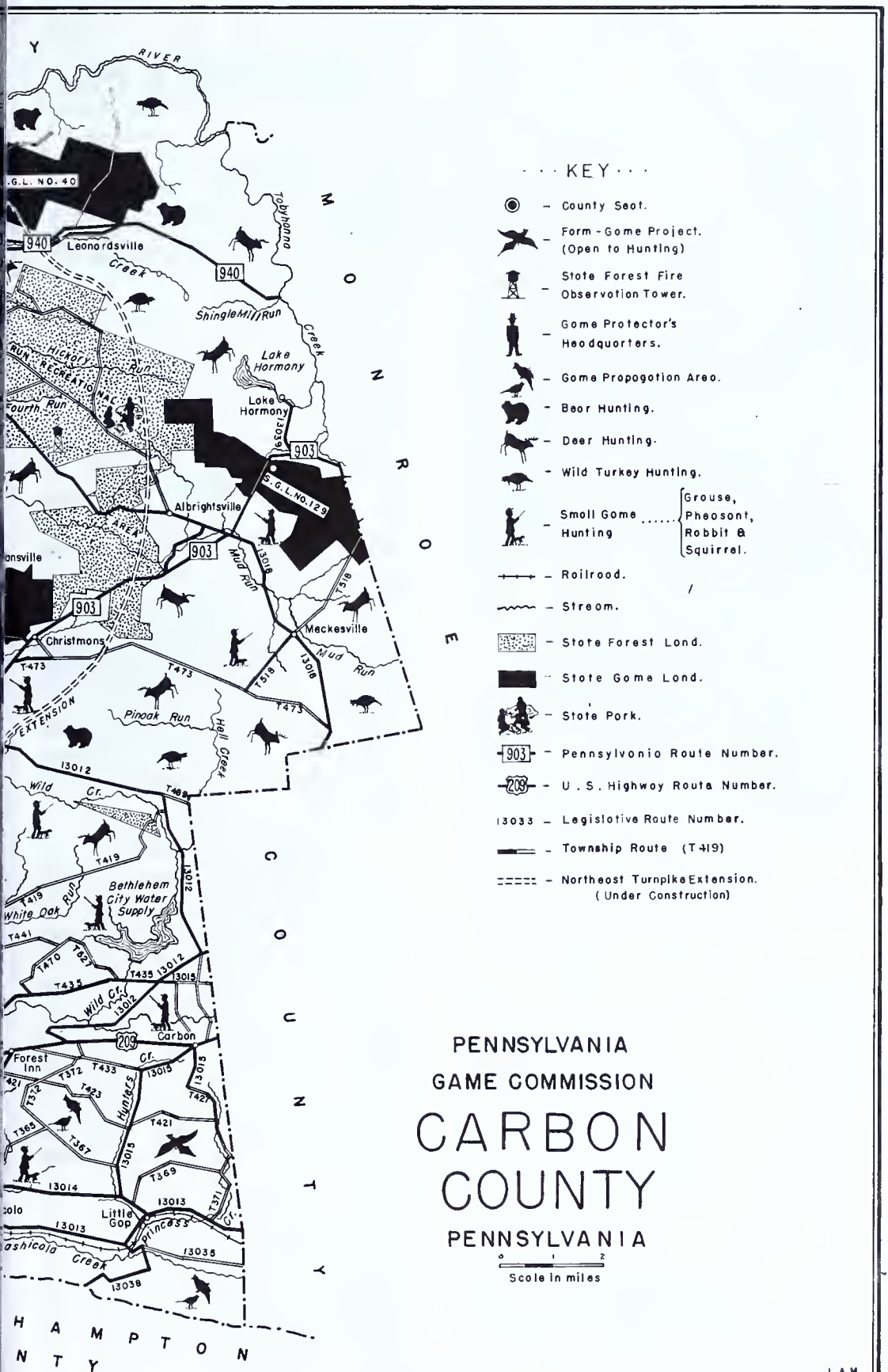
Lehigh
Tannery

Audenried
Tresckow
Leviston
Beaver Meadows
Beaver Creek
Hazle Cr.
L.V.R.R.
Buck Mountain
Leslie
Indian Run
Rockport
Weatherly
Quakake
Creek
Hudsondale
Black Creek
Stewarts
Gerhards
L.V.R.R.
S.G.L. NO. 141
Dennisons Run
Nesquehoning
New Columbus
Hauto
C.R.R. of N.J.
Nesquehoning
LEHIGH RIVER
Lansford
Summit Hill
Bloomingdale
Mauch Chunk Cr.
Jim Thorpe
Packerton
Beaverdam Run
Jamestown
New Mahoning
Pleasant Corners
Mahoning Cr.
Lehighton
Weissport
Normal
Ashfield
Parryville
Bowmons
Bowmanstown
Lizard Cr.
L.V.R.R.
C.R.R. N.J.

S C H U Y L K I L L C O U N T Y

L E H I G H

C O U N T Y


RIVER
G.L. NO. 40
940
Leonordsville
940
Tobyhanna Creek
Shingle Mill Run
Hickory Run Recreation Area
Fourth Run
Lake Hormony
Loke Hormony
903
S. G. L. NO. 129
Albrightsville
903
Mud Run
13018
T418
Meckesville
Mud Run
903
Christmons
T473
T473
T518
13018
Pinoak Run
T473
Hall Creek
Extension
13012
Wild Cr.
T469
T419
Bethlehem City Water Supply
T419
White Oak Run
T441
T470
T427
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13012
3015
T435
Wild Cr.
13012
209
Carbon
Cr.
Forest Inn
T372
T435
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T421
T423
Hunters
T421
T365
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T371
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Little Gap
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Princess
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Tashicola Creek
13038
13038
MONROE COUNTY
HAMPTON
NTY
· · · KEY · · ·
– County Seat.
– Form - Game Project. (Open to Hunting)
– State Forest Fire Observation Tower.
– Game Protector's Headquarters.
– Game Propogation Area.
– Bear Hunting.
– Deer Hunting.
– Wild Turkey Hunting.
– Small Game Hunting ..... Grouse, Pheasant, Robbit & Squirrel.
– Railroad.
– Stream.
– State Forest Land.
– State Game Land.
– State Park.
– Pennsylvania Route Number.
– U. S. Highway Route Number.
13033 – Legislative Route Number.
– Township Route (T419)
– Northeast Turnpike Extension. (Under Construction)
PENNSYLVANIA
GAME COMMISSION
CARBON
COUNTY
PENNSYLVANIA
0 1 2
Scale in miles
L.A.M.

priate since the first discovery of this mineral in the Lehigh Valley was in the present county limits. The earliest settlers were Moravian missionaries who founded a settlement called Gnadenhutten near the junction of Mahoning Creek and the Lehigh River in 1746. The famous Warrior's Path from southeastern Pennsylvania to the Wyoming Valley passed through this point. Several of the missionaries were massacred by French-inspired Indians in 1755 and at the request of Benjamin Franklin, Fort Allen was erected opposite the settlement.

Mauch Chunk (now called Jim Thorpe), an Indian name meaning "bear mountain," was first settled in 1815 when much of the present county was still a virtual wilderness. The development of the county was due to the rise of the anthracite coal industry and to lumbering. In 1818 the Lehigh Coal and Navigation Company was first organized and it was this company which not only opened up the area to transportation by means of canals and later railroads but also developed the rich coal deposits and made them a source of wealth to the people. One of the first railroads built in America was the Mauch Chunk railroad built to connect the Summit Hill mines with the Lehigh River. Nine miles in length, it was constructed with wooden rails strapped with iron and operated by gravity on the descent. Mules returned the cars to the mine until 1844 when a switchback using inclined planes was adopted. Until it was abandoned recently, this railroad was one of the scenic attractions of Pennsylvania.

Most historians claim Philip Ginter discovered anthracite coal under the roots of a fallen tree about nine miles west of Mauch Chunk in 1791, the present site of Summit Hill.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Aquashicola Creek, Palmerton, Rt. 309, 7 mi.; Big Bear Creek, Jim Thorpe, Rt. 209, 3 mi.; Buckwa Creek, Little Gap, Rt. 904, 3 mi.; Drake Creek, Christmans, Rt. 903, 2 mi.; Hayes Creek, White Haven, Rt. 940, 3 mi.; Hickory Run, White Haven, Rt. 940, 4 mi.; Hunter Creek, Little Gap, Rt. 309, 4 mi.; James Run, Nesquehoning, Rt. 209, 3 mi.; Lesley Run, Weatherly, Rt. 193, 5 mi.; Lizzard Creek, Bowmanstown, Rt. 209, 7 mi.; Mauch Chunk, Jim Thorpe, Rt. 209, 2 mi.; Pine Run, Weisport, Rt. 209, 5 mi.; Pohopoco Creek, Palmerton, Rt. 309, 12 mi.; Quakake Creek, Hudsonville, Rt. 309, 10 mi.; Sand Spring Run, White Haven, Rt. 940, 5 mi.; Stony Creek, Christmans, Rt. 903, 5 mi.

BLACK BASS: Harmony Lake, Lake Harmony, Rt. 903, 110 acres; Tippet Swamp, Nesquehoning, Rt. 209, 45 acres.

Recreation—Hunting

Carbon County is primarily noted for hunting opportunity on forest game species. Deer, snowshoe rabbits and squirrels provide good sport. Wild turkeys, although not abundant, are increasing. A few black bears are bagged each year. Rabbit hunting is good and the county offers fair hunting for pheasants even though it is not classified as primary pheasant range. Three tracts of State Game Lands, open to public hunting, are found as follows: State Game Lands 40, near White Haven, covering 5,249 acres; State Game Lands 129 (in part), near Albrightsville, covering 2,780 acres; and State Game Lands 141, near Weatherly, covering 16,840 acres.

Outdoor Reveries



Summer Bows Out

By John H. Day

NOW that September's here again, the wind in the maples has a different sound. That is, whenever the wind can work up enough energy to make itself heard. The countryman sprawls at indolent ease along the forest trails, noting the complete lack of bird voices. Only a few persistent crickets strum away on their raspy lutes. Aside from this the woods stand in deep-shaded silence—a sort of contemplative, expectant silence. Then a breeze steals through the treetops and the song it sings is the sound of summer's end.

Summer officially bows out on that September day when the sun crosses the autumnal equinox. Even that is but a calendar transaction. September serves as the harvest month, and as the buffer between the listlessness of August weather and the bracing vitamin-packed days of bright October.

The old worn earth is very beautiful in September, as she sits with her hands crossed in her bounteous lap. Now that the year's labor is finished, one might say that she crooned softly on a royal death bed. Countrymen are well aware how eloquently still and prophetic September can be. Her days may have the warmth of summer in their briefer hours, but there is surely a prophetic breath of autumn in her lengthening evenings.

The big brown monarch butterfly has taken to the road, starting the long, leisurely journey to winter quarters in the warm southland. The true countryman envies this gypsy wanderer, who travels light, living off the country as he goes. His are the pathways where beauty dwells. All day he voyages through colorful seas starred with ironweed and thistle Joe-pye weed and boneset, making his evening landfall in some cozy retreat where he can dream through the midnight hours beneath the blazing canopy of stars.

As he ponders the tremendous driving instinct which sends the monarch hordes pressing southward each

autumn, and which brings them surging northward with the returning spring, the countryman marvels at the infinite manipulations of the Hand within the Shadow. Why do these creatures migrate like the birds, while countless others perish when frost encroaches?

While there have been many varieties of mushrooms to be had for the seeking since the delicious morels showed up early in trout season, the "mushroom season" is really just now getting under way. September brings the peak crop of pasture mushrooms, which almost everybody knows. The same field may be sprinkled all over with puffballs looking as fresh as new-laid eggs as they poke out of the close-cropped earth.

This blooming of the mushroom world is a sort of second spring. The shelf fungus now encrusts decaying logs in damp places with a tropic flora of marvelous hues. The deadly amanita, the "destroying angel," gleams now in the woods, luring the ignorant with its terrible beauty. The countryman notes the red and green russulas and the rarely beautiful coral mushrooms as he follows the forest aisles.



September, they say, begins with an ending of summer and ends with the beginning of fall. Somewhere in the middle of the month comes the gorgeous harvest moon, to "shine on" the last stand of summer, and light the way for countless pixie fingers which are even now about the task of painting the brilliant livery of autumn across the land.

Sudden, tragic death stalks our modern express highways at all hours, striking down countless wild folk who have not yet learned to stop, look and listen for that added killer, the gasoline-powered juggernaut. They know how to cope with hawks and owls, with prowling cats and baying dogs, and with famine and the chill hand of winter. But they have not yet learned to reckon with the motor car, which comes hurtling out of nowhere, ofttimes with blinding, confusing lights, to strike a lethal blow and roar away. And so they sacrifice themselves on the blood-stained altars of speed and progress, mute victims of a slayer they are not equipped to meet.

One recent day I picked up a yellow-billed cuckoo on a heavily traveled stretch of macadam roadway. This mysterious "rain crow," whose weird ventriloquial voice is a common sound of the summer byways, is only a voice to most folks, who never see him in his dignified flights from covert to covert. He is a master at keeping out of sight, but he wasn't smart enough to avoid the car which killed him.

Last spring I picked up a blob of gorgeous scarlet feathers on a main thruway, and held in my hand what had been a glowing scarlet tanager. He had made the mistake of crossing too low above the highway and at the wrong time. Sparrows are frequent victims and even the wily crow is sometimes run down when he fails to get up from a fresh-killed rabbit in time.

One warm rainy fall night I

knocked down a screech owl who had flown against the windshield. He lay in the roadway, sure victim for the next car which came along. I took him home and gave him the run of our screened-in back porch.

He was groggy for a time, but soon he became a most wideawake creature, snapping fearsomely when approached, and batting his big eyes in approved owl fashion. We opened the door and he floated out on wings "shod with silence." There's been a most musical screech owl around ever since, and we like to think it's our chance friend, repaying our kindness as best he can.

Minor tragedies are now occurring daily to members of the famous weather-seer caterpillar family known as "woolly bears." These brown bundles of fuzz are hustling about, looking for a good spot to curl up for the long sleep ahead. Watch the road before your car and you'll see three or four of them in every mile. And you'll see where more have perished beneath the broad tires, their lives snuffed out before they reached their final glory as tiger moths in the May gloaming.

Roadways are littered with the battered remains of rabbits and skunks, snakes and turtles, house cats and possums. Bugs of all sizes and description die by the millions every day, plastered against the radiator grilles of every car traversing the highways. Occasionally a larger animal, such as a deer, is struck down, but here the tables are turned and the motorist often gets the worst of the encounter.

The normal life of our wildling neighbors is a series of adventures and hairbreadth escapes. Probably very few of them die a natural death, or even live out half of their appointed days. Murder on the highways is just one more violent ending to be reckoned with in trying to stay alive.

The countryman counts it a red letter day when he gets a glimpse of a bear shuffling through the woods,

GIANT PUFFBALL



slapping open rotting stumps or digging up the nest of savage yellow jackets. Once in a great while he runs across bruin in the berry fields and its anybody's guess who got out of there first. Usually all he sees is the south end of a bear high-tailing north under full steam, for our native black bear has a great terror of mankind. Of course when mama bear leads her cubs through the woods she may be really dangerous.

Advent of the large state forest parks, with their recreational centers and adjacent garbage dumps, has changed the picture for the bears in those areas. These fellows have become a gang of gutter bums, nosing around among the cans of tidbits, and mooching handouts from the crowds of curious "summer people" who swarm all over the smelly places with camera in one hand and a half-loaf of bread in the other.

I'll have to admit that sometimes the bears put on a real show. One recent evening we went to "see the bears" in a huge park maintained by a neighboring state. The ranger had advised us to be on hand around seven o'clock, and promptly on the hour we drove up to the dump, to run into a tangle of parked cars which forced us to halt a half-mile from the objective and hoof the rest of the way.

There were at least five hundred people milling about, all on the same mission, and I figured any sensible bear would stay back in the trees, once he saw that mob. And then came one of the best outdoor shows I ever hope to see.

Down through the woods to our left came a big black female, leading three cubs. The little fellows were full of pranks, awkwardly tumbling about her feet as she stalked purposely ahead. When she got to the open edging she eyed the crowd, sniffed the foul-smelling dump and turned and said "Woof!" Like a flash those three cubs went up a huge tree, never stopping until they were well over forty feet off the ground.



Almost immediately, off to our right, another mama bear came ambling along and she too had a set of triplets with her. All bear cubs must go to the same grade school, for she uttered the same command when she hit the clearing and up a huge tree they went, to stay until she said to come down.

Then to cap the climax down through the woods in front of us came a third female, and with her were two rollicking youngsters. And at the edge she stopped and said "Woof!" and those cubs were up a tree in a jiffy. There we were, with lots of daylight left, and eight bear cubs entertaining in the trees not forty yards away. I never expect to see another show like it anywhere.

From somewhere a fourth adult had materialized, and this quartet scrambled all over the dump, pawing the cans, and catching the bread tossed to them. Someday somebody's going to get hurt, for there's always the venturesome soul who wants to show off, and the bear can strike a wicked blow when goaded to it.

Those cubs had a circus while their mothers dined. They wrestled and boxed and played tag all over those trees. When they got tired they straddled a limb like any youngster. They have the real showman's genius for making every new move more comical than the last. And they know better than to come down. One little fellow scrambled almost to the ground. His mother raised up and growled at him and he flew back upstairs in a hurry.

We watched those fascinating bears until darkness fell and the cubs' eyes shone like glittering emeralds in the beam of my flashlight. Then the mothers decided to call it a day. Each stopped long enough to order her charges back to earth, and then each led a comic parade off through the dark and fearsome woodlands.



Out Of The Skin Into The Saucer

LUZERNE COUNTY — While on patrol with Wildlife Protection Assistant Hodge, he called to me and said that a snake had just shed its skin as it just about fell on him from a tree. When we were ready to go, we went to the tree and on the ground underneath was a black snake that hadn't finished the job. With a heel on the snake's head, we helped him complete the job of shedding his skin and also his robbing nests from the tree.—District Game Protector John C. Behel, Wilkes-Barre.

Too Much Heat For Groundhog

MONTGOMERY COUNTY—One very hot day last June while checking along the Little Neshaminy Creek for nesting ducks, I heard a disturbance in the high grass. Thinking it was a muskrat I waited to see what it was doing. It turned out, however, to be a half grown groundhog coming down to the water. I was really surprised when the animal jumped in the creek and swam around for at least five minutes. Finally, it climbed up the bank and waddled away. I had never seen a chuck swimming before but I guess the heat was just too much without taking the swim.—District Game Protector Donald L. Croft, Hatboro.



Foster Parents Wanted

WESTMORELAND COUNTY — On May 18, I released 30 banded ducklings on the Loyalhanna Flood Control Reservoir. A few days later, while crossing an abandoned concrete bridge over the dam, I noticed a mallard hen swimming down stream with 12 very small ducklings behind her, followed by the 30 banded ducklings. They were quacking loudly, but the mature hen paid no attention to them and continued downstream followed by her brood. Mighty snooty bird. On one occasion, these banded ducklings were near this same bridge when two mature ducks flew over them. The banded ducklings saw them and tried to take off after the flying ducks. The result was a lot of water splashed around by their wildly flapping wings, but they couldn't get off the water. It was a noble try, anyhow.—District Game Protector D. W. Heacox, Irwin.

Chase Ends With Coyote

LACKAWANNA COUNTY — Adam Galoney, a local sportsman who has a pretty good pack of fox hounds, had an unusual experience last March. His dogs started an animal which appeared to be too big for a fox. Galoney glimpsed the animal several times but could not determine what it was. Darkness intervened and it was necessary to stop the chase. Galoney then continued hunting and chasing the animal for parts of four consecutive days, alternating the dogs. When he eventually bagged the animal it proved to be a fair sized female coyote.—District Game Protector Stephen A. Kish, Avoca.



Unwanted Wildlife

MERCER COUNTY — A Game Protector doesn't have to study or have anyone tell him when certain species of wildlife have their young. The uninformed, unthinking and unjust general public lets the Game Protector know exactly when young are born by picking up innocent and contented wildlife and delivering same to the nearest Game Protector with the same old story, "they lost their mother." Certainly some young wildlife lose their parents but it's about a nine to one chance that the mother wasn't too far away when the young bird or animal was picked up and taken from its natural home. So far this spring I have had rabbits, ringnecks, squirrels, killdeer and robins brought to my headquarters for me to be a foster parent. I do my best to care for them but know, however, that without a doubt the mother of the young birds or animals would have done a much better job. We would end up then with more birds and animals to see and they could enjoy the great outdoor home that Mother Nature intended for them.—District Game Protector Arthur T. Biondi, Mercer.

Orphans of the Storms

BERKS COUNTY—During March I have learned from a very reliable source that three fawn deer have been making regular visits to a farm near Leesport. The fawns are in good condition and spotted. They were born in the fall of 1954 and due to the abundance of feed in the Southeast Division and the lack of heavy snow were able to survive.—Wildlife Protection Assistant James A. Brown, Reading.

Gulls Get Good News

LEBANON COUNTY—In the early part of March, I saw a flock of sea gulls, numbering about 125, following a farmer as he was plowing a sod field. Evidently the gulls were feeding on worms. The farmer told me that when he started to plow in the morning about ten gulls appeared, and stayed only a short while. After leaving they were back in about thirty minutes with the entire flock. —District Game Protector Elmer J. Turner, Lebanon.

Jam In A Jar

SCHUYLKILL COUNTY—Mr. Stanley Barr of Ravine, called me by telephone to report he had a hooded visitor on his back porch since 4:30 that morning, and asked for assistance. Upon arriving at Mr. Barr's home I found a nice striped skunk with his head caught in a small glass jar. For some reason the skunk had climbed to the porch and seemed unwilling or unable to go down the five steps. After much deliberation as to how to release the skunk without the usual odor and contaminating the family wash hanging on the porch, we decided to attempt to break the jar with a .22 BB. One shot freed the skunk from his glass mask and in about five minutes he left the porch, peacefully, to the relief of all.—District Game Protector Ralph L. Shank, Pine Grove.

Where Does the Game Go?

BERKS COUNTY—During June, we always see plenty of game animals and their young. Hunters often ask, "What became of all the game?" when hunting season rolls around. The following reports from deputies show just two of the ways that our game supply is decreased. Deputy Heinsohn reported that a friend of his, while taking wildlife movies, saw a mallard hen flopping on the water. Investigation showed the mallard hen was caught by the head by a snapping turtle weighing only five pounds. Deputy Filbert, while helping to bale hay, found five young ringneck pheasants in one bale he was loading. The birds had evidently been scooped up and killed in the baling operation. —District Game Protector Samuel C. McFarland, Centerport.

Pheasant Patrol

CLARION COUNTY—One evening in May, Herb Rogers of Jeannette, saw a brood of young ringneck chicks start across the road ahead of his car. A cock bird suddenly appeared and stood in the middle of the road between the car and the chicks and from his belligerent attitude made it quite plain that he was ready to fight for the safety of his brood. He stood his ground until all of the chicks were safely across the highway and then followed them allowing the regular highway traffic to continue.—District Game Protector Donald M. Schake, Knox.





Day-old High Divers

WAYNE COUNTY—On June 1, 1955, I had a telephone call from Mrs. Frank Tosch, Seelyville, Penna. She reported that she had seen a bird throwing something from the top of a tall sycamore tree near her home. She at first thought it was leaves that were falling into the river but decided they splashed too much to be leaves, so she investigated and found fourteen baby wood ducks. Mrs. Tosch says the tree was as tall as a two story house and that the ducklings really made a splash when they hit the water. Later ducklings and the old mother disappeared so evidently all is well with the new family. —District Game Protector Robert H. Myers, Honesdale.

Edge Cutting Eventually Pays

SOMERSET COUNTY—Edge cutting certainly pays. Last year, two turkeys nested on the edge of a field that had been edge cut. But predators seem to recognize this; both turkeys and eggs were taken by raccoon. This year another turkey nested in another edge cutting that was made early this spring. She hatched on or about May 16 and had 15 young. About two or three days later, another turkey nesting near this same area, hatched at least 15 more. The predators were taken care of.—District Game Protector Robert V. Rea, Confluence.



Then There Was Seven

ARMSTRONG COUNTY — Harold Dubbstatt of Kittanning gave me this report and the evidence to prove his story. While working on his farm near Kittanning, he noticed a weasel sticking its head from a stone pile. Getting his .22, he started to shoot. Each time he shot, the head would disappear. Thinking he was missing, he went to look and he found not one, but seven dead weasels.—District Game Protector William H. Shaffer, Kittanning.

Strayed, Stolen But Not Lost

SUSQUEHANNA COUNTY — A fitting example of how nature's children seldom become "lost" is illustrated by the following occurrence. Deputy Seward Rice of Brushville was informed that some folks had found an abandoned fawn in their garden. As is usual, the people wanted to keep the deer for a pet. Using a little strategy Deputy Rice suggested they return the fawn, leaving it overnight. Then, if the mother didn't come back, to pick it up again next morning. No sooner had the fawn been replaced that evening than there was a bleat from the nearby brush and our lost child went scampering back to its mother. Even though a full day had elapsed, the doe had lingered in the vicinity.—District Game Protector Donald G. Day, Susquehanna.

Watch Out For Wildlife

SCHUYLKILL COUNTY—At the Atlas Powder Company near Reynolds in Schuylkill County, the abundance of wildlife is very noticeable due to the area being closed to hunting. Two incidents which occurred recently are perhaps caused by the tameness of these animals. On one occasion a worker returned to his dinner pail to find it in great disarrangement and some of the contents missing. Following the trail of papers from sandwiches he finally came upon the thief. A raccoon was sitting in the middle of the railroad tracks daintily eating what remained of a piece of pie which he had taken from the worker's lunch pail. On another occasion a foreman heard a lunch pail rattle and knowing that it was not yet lunch time investigated to see which of his men was eating early. To his amazement, he saw a gray squirrel stick his head over the side of the pail. He waited quietly and the squirrel finally came out, but he was carrying a sandwich which he commenced to tear from the wrapper and eat.—District Game Protector Billy A. Drasher, Tamaqua.





Dove, Rail, Gallinule and Woodcock Season Announced for '55

The U. S. Fish and Wildlife Service has announced the 1955 hunting regulations which will apply for the shooting of mourning doves, rails, gallinules and woodcocks.

The season for rails and gallinules in Pennsylvania this year will run from September 1 to October 30, inclusive, a 60-day shooting season. These marsh birds may be taken one-half hour before sunrise to sunset daily, except Sunday. On October 29, the first day of the small game season, no wild bird or animal may be lawfully hunted before 9 a.m., Eastern Standard Time.

The daily bag on rails and gallinules is 10, except Sora. The possession limit, after the first day, is 20, equivalent to a two-day bag. Sora remains at 25 for both the daily and possession limit.

The dove shooting season in this state will run 35 full days this year, on week days September 15 to October 19, inclusive. Shooting hours are one-half hour before sunrise to sunset. The daily bag and possession limit for doves is 8, the same as last year.

The woodcock season will be October 1 to November 9, inclusive, or 40 shooting days, as last year. The daily bag limit of 4 and possession limit of 8, remains the same as in 1954. Shooting hours are one-half hour before sunrise to sunset, except on the opening day of small game season, October 29, when no hunting will be permitted before 9 a. m.

A federal stamp for migratory bird hunting is not required to hunt rails, gallinules, sora, doves or woodcocks.

Huffman Appointed New Commissioner

On July 25th the Pennsylvania Senate confirmed Governor Leader's appointment of C. Elwood Huffman, Marshalls Creek, Monroe County, to the Pennsylvania Game Commission. The new commissioner succeeds B. K. Williams, East Stroudsburg, whose term expired last January.

The new commissioner is in the hotel business, is President of the East Stroudsburg Exchange Club and has had wide experience as a business executive. He is a graduate of Bucknell University and is a long-time secretary and director of his home township school board. Mr. Huffman belonged, for many years, to the Mt. Pocono Sportsmen's Association.



C. Elwood Huffman

240,250 Licenses Allocated for Issuance to Sportsmen Desiring to Hunt for Antlerless Deer December 12-13, 1955

When the Pennsylvania Game Commission, at its July 1, 1955 meeting, established a two-day Antlerless Deer Season for December 12 and 13, it also provided for the issuance of 240,250 Antlerless Deer Licenses. Before deciding on the number of licenses to be released and the number of deer that could be safely harvested, conditions prevailing in each area were carefully studied from the sources of information at the Commission's disposal.

As a result of the Commission's findings a generous allocation of licenses was made possible and sportsmen desiring to hunt during the special season should encounter no difficulty in purchasing a license for $1.15 at the Treasurer's Office in some county of their choice.

Regulations to overcome previous criticism governing sales will require that all licenses be issued in numerical sequence upon the receipt of signed applications on forms provided for this purpose. No one may submit more than fifteen (15) additional applications for licenses signed by eligible individuals at any one time.

County Treasurers should receive their allocation of Antlerless Deer Licenses sometime early in October, 1955. The following quotas for each county are:

COUNTY	*NO. OF LICENSES*
Adams	2,000
Allegheny	1,000
Armstrong	3,000
Beaver	1,000
Bedford	2,500
Berks	3,500
Blair	2,200
Bradford	6,000
Bucks	1,500
Butler	4,000
Cambria	4,000
Cameron	4,800
Carbon	4,000
Centre	5,000
Chester	1,000
Clarion	3,000
Clearfield	4,000
Clinton	2,000
Columbia	3,000
Crawford	6,000
Cumberland	2,500
Dauphin	3,500
Delaware	500
Elk	12,000
Erie	4,000
Fayette	4,000
Forest	8,000
Franklin	2,000
Fulton	1,500
Greene	1,500
Huntingdon	2,500
Indiana	4,000
Jefferson	3,000
Juniata	2,000
Lackawanna	3,000
Lancaster	1,250
Lawrence	1,000
Lebanon	2,000
Lehigh	1,000
Luzerne	5,000
Lycoming	5,000
McKean	12,000
Mercer	2,000
Mifflin	2,000
Monroe	5,000
Montgomery	1,000
Montour	500
Northampton	1,500
Northumberland	2,000
Perry	3,500
Philadelphia	....
Pike	6,000
Potter	5,000
Schuylkill	5,000
Snyder	1,500
Somerset	7,500
Sullivan	4,000
Susquehanna	7,000
Tioga	4,000
Union	2,000
Venango	4,000
Warren	12,000
Washington	1,000
Wayne	7,000
Westmoreland	6,000
Wyoming	4,000
York	2,000
	240,250

Antlerless Deer Season Information

On July 1 the Game Commission declared that on Monday and Tuesday, December 12 and 13, 1955, there shall be an antlerless deer season in all the counties in the Commonwealth except Philadelphia. Inquiries indicate the following information is needed to answer hunters' questions on this special season.

Hunting hours are 7 a. m. to 5 p. m. on both December 12 and 13. A person who has killed a legal buck in either the bow and arrow or "regular" season earlier may not hunt for or take deer in the '55 antlerless season.

Antlerless deer licenses, costing $1.15 each, will number 240,250 this year. This allocation is based primarily upon the buck kill by county in 1954. The number of licenses listed for each county is adjusted in accordance with the need of harvest in respect to the deer herd.

The Commission used all available information in determining the number of antlerless deer licenses to be issued in each county. The quotas were determined in relation to the number of deer present and the extent of damage incurred in each county. The entire allotment for each county shall be made available for issuance by the county treasurers of the counties in which such licenses are to be used. These licenses and tags may be issued only to holders of resident or non-resident hunting licenses for the year beginning September 1, 1955. But no application for antlerless deer licenses received from non-residents shall be approved or licenses issued except during a period of 30 days immediately preceding the opening date of the season.

County treasurers will receive their allocation of antlerless deer licenses early in October. Application forms will be made available to all issuing agents at about the same time.



To overcome undesirable situations encountered in the past, the present license sale plan will require that all antlerless deer licenses be issued in numerical sequence as received, and that no one may submit more than 15 additional applications for such licenses signed by eligible individuals at any one time.

On the basis of past experience one hunter in 5 or 6 licensees will bag an antlerless deer, so the anticipated harvest in the two-day 1955 season should therefore fall between 40,000 and 50,000. However, weather and other factors will, as always, have much to do with determining the total take.

These reasons for setting this year's antlerless season are given by the Game Commission: 1. Manage the herd in such a way as to relieve widespread damage to farm, truck and orchard crops throughout the Commonwealth, and maintain the deer population in good healthy condition without encroachment upon such crops. 2. Permit the efforts toward reforestation and the planting of game-food-producing trees, shrubs and vines to reach food and cover producing age. 3. Aid important species of small game by relieving the drain on essential cover and food supplies for them. 4. Reduce the number of highway accidents caused by deer. 5. Utilize many deer that would otherwise be wasted through highway mortality, crop damage kills and winter losses.



PGC Photo by Johns

FAWN DEER is center of attraction at 1955 Junior Conservation Camp conducted by Pennsylvania Federation of Sportsmen's Clubs near State College. Left to right: Bill Miller, Shelocta, Head Counselor; Senior Counselors Bob Ahn, Ivyland, and Harry Faller, Fryburg; Pennsylvania Game Protector Carl Jarrett, McConnellsburg; and campers Bill Kauffman, Waynesboro, and Frank Antenori, Peckville.

The Life of A Game Protector

The Pennsylvania Game Protector is a carefully selected, well-trained public official whose duty it is to administer the game law and Game Commission regulations and policies. He is sincerely interested in the use or misuse of soil, water and all the things that grow on the land, knowing their importance in relation to wildlife populations and the economic welfare of our people.

At this time of year many hunters meet the game protector in the role of law enforcement officer, usually considered his principal year-around duty. Actually, illegal operations in the wildlife field may call for his police authority any time, but during most of the year he is engaged in such a variety of operations it would take a fair-sized book to describe them all. Some of his other major duties are: the many phases of land management on Game Commission holdings or wildlife work on private lands through agreement; engaging in conservation programs with cooperating farmers on Farm-Game Projects; investigating crop damage by wildlife; assisting sportsmen's organizations and farmers in rearing pheasants; presenting educational programs before schools, sportsmen, service clubs, youth groups and over the air; fighting forest fires; searching for lost persons; feeding game in winter; cooperating with the press and air stations who inform the public on wildlife matters; assisting in research projects and game surveys; aiding in Fish Commission programs; liberating game; teaching and practicing predator control; investigating the facts behind human casualties caused by hunters' guns; and others.

So, a game protector's life is made up of an assortment of duties, some of which are pleasant and some distasteful or rigorous. These duties subject the officer to call 24 hours a day. Not such a glamorous life after all, but one from which the game protector receives satisfaction and a measure of pride through serving in a field affecting the lives and pleasures of people today and in years to come.

Farm Boys Participate In Unusual Competition . . .

Learning and Earning by Doing

By Leo A. Luttringer, Jr.

Chief, Conservation Education Division

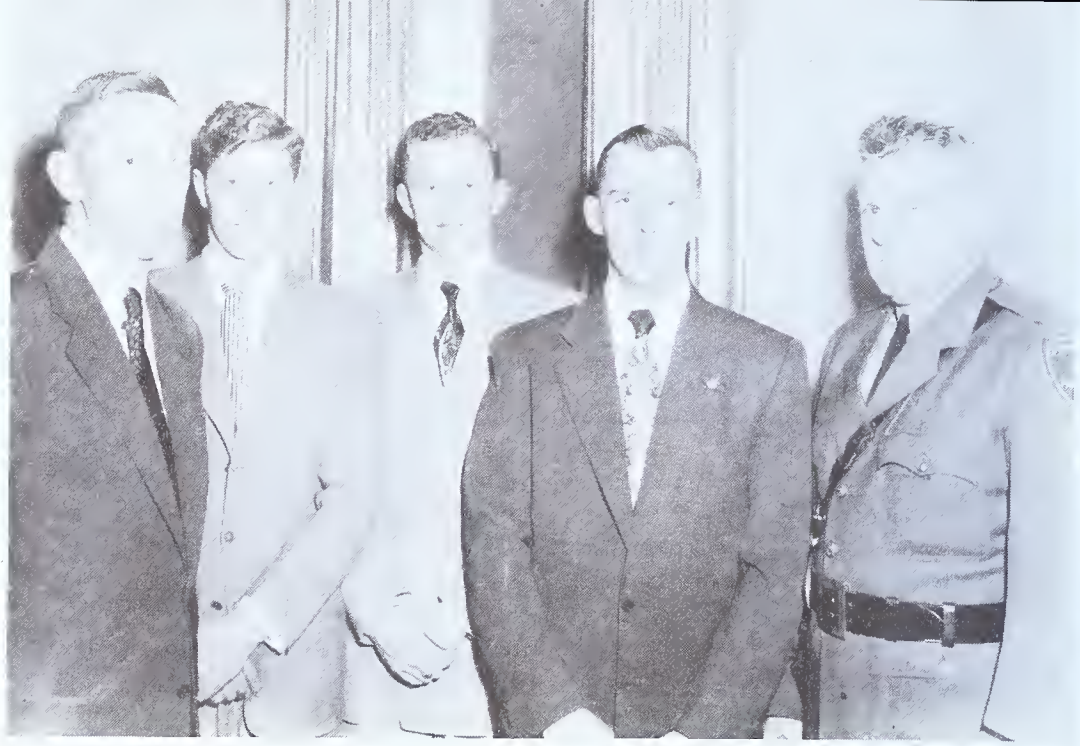
TWENTY-ONE Pennsylvania Future Farmers of America recently learned that improving conditions for wildlife on the farm pays off in more ways than one. All of these young men were winners in the 1954 Statewide Habitat Improvement Program sponsored jointly by the Pennsylvania Game Commission and the Department of Public Instruction. These boys deserve much praise and credit for their efforts and it is a pleasure to introduce them to our readers. In the aggregate they received $855 in awards of the $1,000 subsidy which the Game Commission has made available annually since the program began in 1951. But rather than measure the competition in terms of money, it should be evaluated in terms of enthusiasm. Accomplishments of the twenty-one winners included the following:

Summary

I. Woodlot Management	
1. Trees planted	70,136
2. Fencing erected .....rods	735
3. Shrubs planted	2,100
II. Wildlife Shop Program	
1. Wood Duck boxes	12
2. Squirrel boxes	45
3. Squirrel feeders	212
4. Wildlife shelters	104
5. Turkey feeders	5
6. Spike poles	25
III. Raising Young Game	
1. Quail raised	38
2. Ringnecks raised	2,313

WILDLIFE HABITAT IMPROVEMENT paid off for these Future Farmers in southcentral Pennsylvania. Here Arthur G. Logue, right, supervisor of the Game Commission's Southcentral Division presents award checks to Cloyd Beatty, left and George Edgin, center, for their winning efforts in annual contest co-sponsored by Commission and Pa. Dept. of Public Instruction.





EARLY AWARD WINNERS and leaders in effective FFA contest. Left to right, Wilbur T. Patterson, vocational agricultural advisor of Union Township High School; prize-winning students George Lawrence, Robert Veon, David Luptac; and Game Protector Calvin A. Hooper, of New Castle.

IV. Winter Feeding & Shelter Program	
1. Bushels of corn into feeders	117
2. Corn left standing 5/8 of an acre	5/8
3. Multiflora rose shrubs planted	2,800
4. Brush piles made	17
V. Predator Control	
1. Crows killed	48
2. Foxes killed	46
3. Weasels killed	7
4. Cooper's hawks	2
5. Horned owls	3
VI. Waterfowl Pond & Marsh Management	
1. Farm ponds constructed	2
2. Dams constructed	1

As Mr. H. C. Fetterolf, Chief of Agriculture Education in the Department of Public Instruction, so aptly put it "this project is proving to be a 'natural' for Future Farmers. All farm boys are interested in wildlife, and conservation is a part of the daily instruction in the course of vocational agriculture.

From the 1954-55 reports that have been received by us this far it is estimated that 2830 Future Farmers throughout the state are participating in the program.

"American youth enjoy contests. The Department of Public Instruction for the past thirty years has been conducting a State project contest for vocational boys. The Wildlife Habitat Improvement and Conservation program was made a part of the Project Contest conducted by the Department and we think it is an important one for three specific reasons:

1. It promotes good sportsmanship which is an important part of the code of a Future Farmer.

2. Future Farmers are naturally fond of farm animals and have an abiding interest in wildlife. They always rejoice when there is an abundance of game. Game dinners are providing enjoyable social occasions for the Future Farmers and Future Homemakers in many communities.

3. Fondness of game and all forms of wildlife instills the need of game protection. Providing shelters and feeders and assisting in the feeding of wildlife during long cold spells has been a part of the program of practically every Future Farmer chapter in Pennsylvania."

These are indeed encouraging words from one who has been so close to the Future Farmer program

for so many years. It shows clearly the extent to which such a project can be developed if it is pushed by everyone concerned. The improvements and economies which can be effected on the farms of our Commonwealth as more and more of these young men become interested are tremendous. The whole physical aspect of a countryside can be made more attractive and colorful by applying some of the simple practices recommended in the competition. Farm ponds, planted hillsides and gullies, hedgerows and other improvements are not only contributing to wildlife protection and restoration and indirectly increasing crop yields, they are making of many farm lands natural show places which appeal to everyone.

The program was not hastily devised nor hurriedly put into effect. It was given a rigid test at the local level by W. T. Patterson, Biology Department, Union Township High School, New Castle and District Game Protector Calvin A. Hooper of that area. These two men set up the original project and the point system which measured its several elements. Theirs was the pilot project and to them much of the credit should go. Thanks is also extended to Mr. Clayton Hoff of the Brandywine Valley Association, Robert Wingard of Agriculture Extension Service, Pennsylvania State University for so constructively judging the project.

Messrs. H. C. Fetterolf, Chief of Agriculture Education and his associate V. A. Martin and C. C. Freeburn, Chief of Land Utilization Division of our own Commission, and his two associates Mr. John Sedam and Mr. M. J. Golden, are to be commended for helping to strengthen the program by their suggestions and advice and, last but not least, the Area Advisers, Vocational Agriculture Teachers and Game Protectors who assisted locally should be commended for their work in promoting the activity.

If all of us double our efforts in promoting the program and in influencing more young men to participate in this year's competition, the project will mushroom into something so big and important that it will gain national recognition. It can be the keystone upon which many of our farm wildlife programs throughout the country can build.



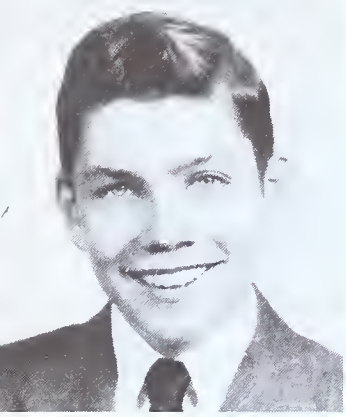
William Houston
Indiana, Pa.

First Prize—Statewide

Sam P. Luptak
New Bedford, Pa.

Second Prize—Statewide

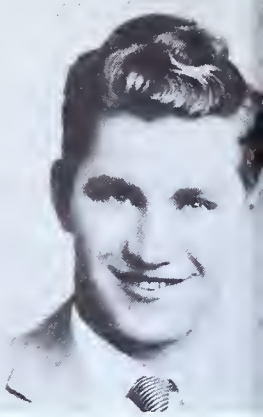




Robert Barron
Slippery Rock
First Prize
Northwest Division



Lee Kaltenbach
Wellsboro
Second Prize
Northcentral Division



Paul Ratvasky
Ebenburg
Fourth Prize
Northwest Division



Thomas McCombs
Commodore
Fourth Prize
Southwest Division

PENNSYLVAN

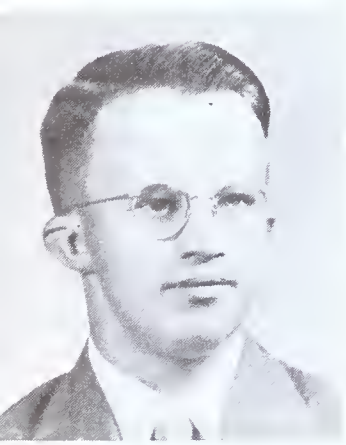
WILDI

IMPROVEM

REGIO



Paul Rittenhouse
Brockway
Second Prize
Northwest Division



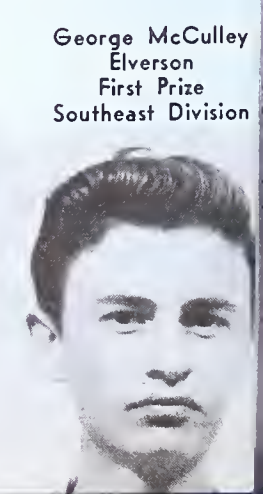
Jack Miller
Acme
Second Prize
Southwest Division



Stanley Beeman
Dushore
First Prize
Northeast Division



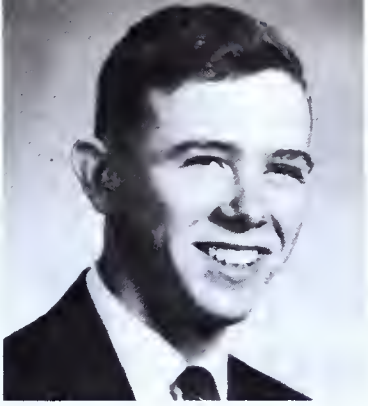
Richard Lehr
Dover
Second Prize
Southeast Division



George McCulley
Elverson
First Prize
Southeast Division



Regis Aeron
West Newton
First Prize
Southwest Division



Hugh Asheraft
Mehoopany
Second Prize
Northeast Division



Cloyd Beatty
Shirleysburg
Second Prize
Southcentral Division

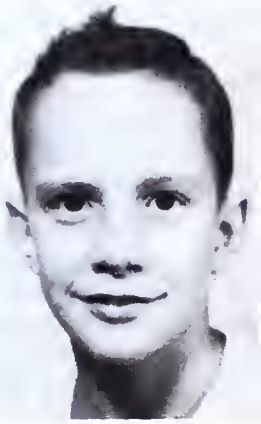
TURE FARMERS

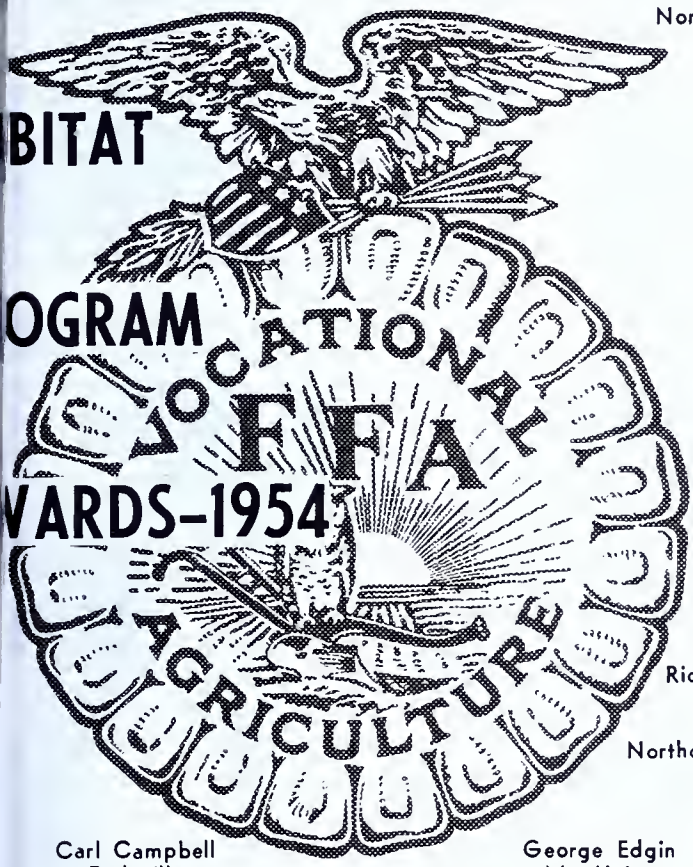
BITAT

OGRAM

VARDS–1954

Darwin Hatch
Forksville
Fourth Prize
Northeast Division





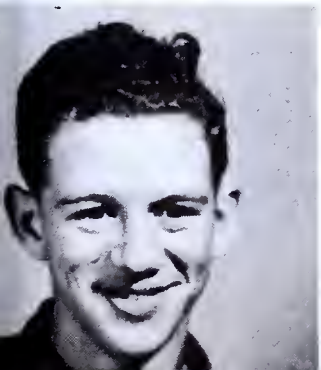
Richard Robinson
Williamsport
First Prize
Northcentral Division



Carl Campbell
Forksville
Third Prize
Northeast Division

George Edgin
Mt. Union
First Prize
Southcentral Division

Tom Benko
Clymer
Third Prize
Southwest Division









OUTDOOR FUN WITH A FUTURE



Collecting With a Purpose

By Ted Pettit

FOR some reason or other, a hobby interest in hunting, fishing, camping or nature in general seems to arouse an interest in collecting. At any rate, every outdoorsman I've ever met was a collector of some sort. Some of them took collecting seriously and their homes resembled natural history museums, except that they were more interesting because of the personal touch. Others just collected, and their basements or garages contained boxes or barrels of "stuff," with no apparent order or purpose.

Nature collections can be an interesting and helpful companion hobby to other outdoor hobbies, but such collections should have a purpose. Just as stamp collectors sometimes specialize in one country, group of countries, or certain pictures on postage stamps, nature collections too can be specialized and aimed at a definite objective.

Several years ago a New Jersey sportsman started carrying plaster of Paris with him whenever he went surf fishing, crabbing or duck hunting. He started collecting casts of tracks of water birds. Now he has a rather complete collection of tracks of herons, gulls, ducks and shorebirds. But he wasn't satisfied just collecting the casts. The walk that winds through his backyard garden is a series of cement blocks each of which has embedded in it the track of a different bird. That garden walk is used constantly by Scout Troops, 4-H Clubs, Garden Clubs, Bird Clubs and other groups as a means of identification of bird tracks.

Another outdoorsman has a similar collection of mammal tracks. His casts were made along the trout streams and bass and pickerel ponds of the whole northeast—and the eight by fifteen foot terrace outside his back porch is made up of blocks, each of which portray the track of a different mammal of the northeast—all the way from deermice to bear and moose. Again, all sorts of people visit his home to identify tracks they have found, but could not recognize.

Not long ago, I saw a fireplace in a summer cabin that was made of rocks collected from all parts of the country, Canada and Mexico. These were not just any rocks picked up along the roadside, but with each one went a story that told of the background of the area from which it came—petrified wood from the southwest; fossilized crustaceans from The Ozarks; coal from Pennsylvania; copper ore from Utah; uranium ore from Wyoming; marble from Vermont; salt from New York; coral from Florida, etc.

Another interesting collection has been developed by a fisherman with an interest in wildflowers. Most of his yard is a wildflower garden, with a hundred or more varieties collected right in his own area—and growing successfully because he transplanted only those that would grow in his yard.

Nature collections with a purpose can be fun. Frequently, it is the purpose behind the collection that provides the interest rather than the collection itself.

Well planned collections may be useful in many ways. They make attractive and useful decorations for Scout troop or patrol rooms, meeting rooms for 4-H, F.F.A., junior sportsmen's clubs, conservation clubs and other groups. They make interesting decorations for your own room at home or the family den.

Good collections, too, are useful in school conservation corners or as part of the programs of such groups as the Scouts, 4-H, etc. Some of the youth group programs call for young people making collections and if they have a ready-made collection to use as a guide, their job is easier.

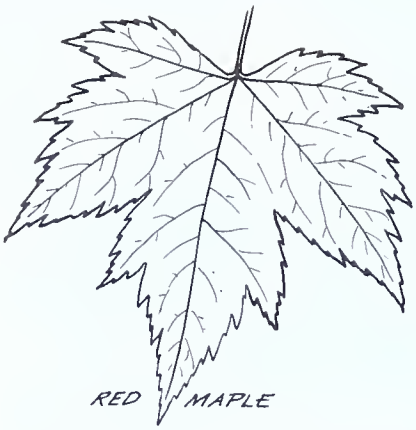
There are a few general rules that apply to most collections. First, probably, is keeping the collection in order —mounting specimens so that they are protected from damage and kept clean from dirt and dust. Proper mounting makes it easy to look at and study the specimens as well and adds to the usefulness of the collection.

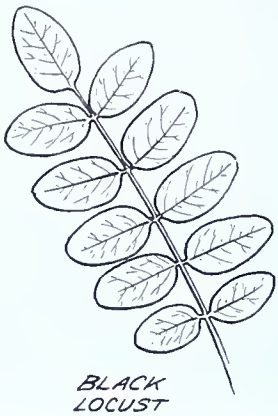
Second, specimens in a collection should be labeled. Labels should include at least: name of specimen (common name and scientific name);

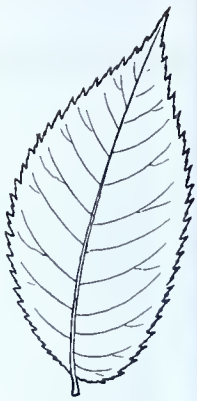
Photo Courtesy Boy Scouts of America

NATURE COLLECTIONS with a purpose can be valuable conservation education aids. They are always popular in Scout, school and community exhibits.









date collected, place collected and name of collector.

In addition, interesting information on the specimen adds much to the collection. If the collection is of tree leaves, for example, write something about the tree—where it grows, what it is used for, what animals eat its seeds or fruit or nest in it; what insects eat it, etc. These facts about the specimen make the collection much more interesting and valuable and make it more useful to those who view it. In addition, the process of collecting and labeling helps you learn much more about nature and how it works.

What To Collect

There are a whole host of nature specimens that make interesting collections, and collecting some of them can be a life-long hobby. Here are only a few:

Leaves; twigs; wood samples; tree seeds; insects; insect cocoons or egg masses; rocks; minerals; shells; soil samples; small mammals, (skins); skulls that you find in the wild; photographs of plants or animals; records of what you see in the wild; wildflowers; costs of tracks; and even sketches that you make yourself in a pad or notebook.

Collecting Leaves

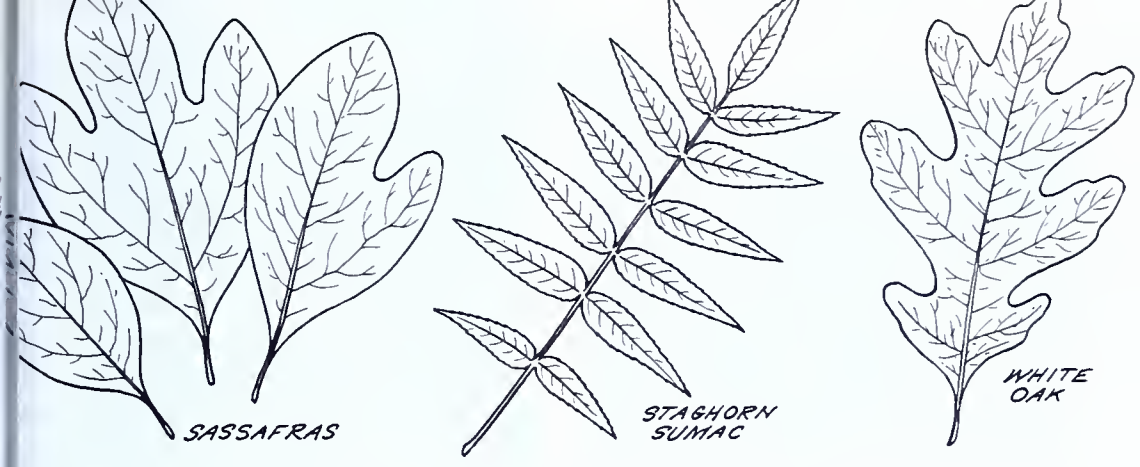
As you collect leaves out in the woods, you will need something in which to keep them. You will find a homemade book handy to have with you. It will protect the leaves from damage, and will help you to keep them separated. As you collect them, you can jot down some notes on a piece of paper and place the notes in the collecting book with the leaves.

To make the book, use some old newspapers. Cut up thirty or forty pieces of paper so that they are about 11½″ by 16″, and lay them in a pile on the floor. As covers of the book, use sheets of heavy cardboard. Then punch a number of holes down one side, using an ice pick or an awl. Weave a piece of string through the holes to keep the cover and the paper together. Tie knots in each end of the string to keep the string from pulling out. Thus you will have a book to use as you collect leaves. Place each leaf on a separate sheet.

When you collect leaves, be sure to select typical leaves. No two leaves on a tree are exactly alike. But most of the leaves will follow a general pattern that will help you to recognize that tree the next time you see it.

Some trees, such as locusts, hickories, sumacs and ashes—have what are called compound leaves. That is, the entire leaf is made up of what appears to be a stem with leaves growing on each side of it. Look up hickories or sumacs in a tree book, to see what compound leaves look like. When you collect the leaves of these trees, be sure to collect the entire leaf. If you were to collect just a single leaflet, it might be difficult to tell from what kind of a tree it came.

As you collect leaves, too, make some notes about the tree. Place those notes in the book with the leaves.



You would write down, for example, the kind of a place in which the tree grows, and the kind of soil —sandy, loamy, wet. You might jot down, too, a brief description of the bark, whether it is smooth, furrowed or scaly, and the color. You might make some notes on the general appearance of the tree, whether it is large or small, generally rounded on top, or more or less pointed. Note whether the leaves and branches grow opposite each other, or alternately on the stem. If you find seeds of the tree, you might collect them, or at any rate write some notes about the seeds. Also jot down something about the place where the tree grows, such as other plants and trees that are growing near by. Perhaps there is a bird's nest in the tree, a squirrel's nest, insect eggs, or a cocoon, or signs of some other animal. Make notes of these things.

After you have collected the leaves of several trees, you will want to mount them in a permanent place. You will need some sort of a large book for this purpose. Most stationery stores, or five-and-tens, sell ready-made scrapbooks which are adequate. Or you can make your own, using sheets of heavy wrapping paper, drawing board, or cardboard.

Mount the leaves, or leaf, of one tree on one sheet in the scrapbook, using a right hand page for the spesimen. To fasten the leaves to the page, you can use transparent tape that needs a little moisture to make it stick or transparent tape that will stick by itself with no moisture. Use as little of the tape as possible, so that you won't cover too much of the leaf. Generally, pieces of the tape about one quarter of the size of a postage stamp, placed on three sides of the leaf, will hold it in place.

On the page opposite the leaf, letter in neatly the name of the tree. Then copy the notes which you made about the tree. Also jot down the place where you saw the tree, so that you can find it again with little trouble.

Knowing the names of trees is important, but far more important is to know other things about the tree, such as where it grows, its approximate age, and how it is related to animals and other plants in the area.

Making Casts

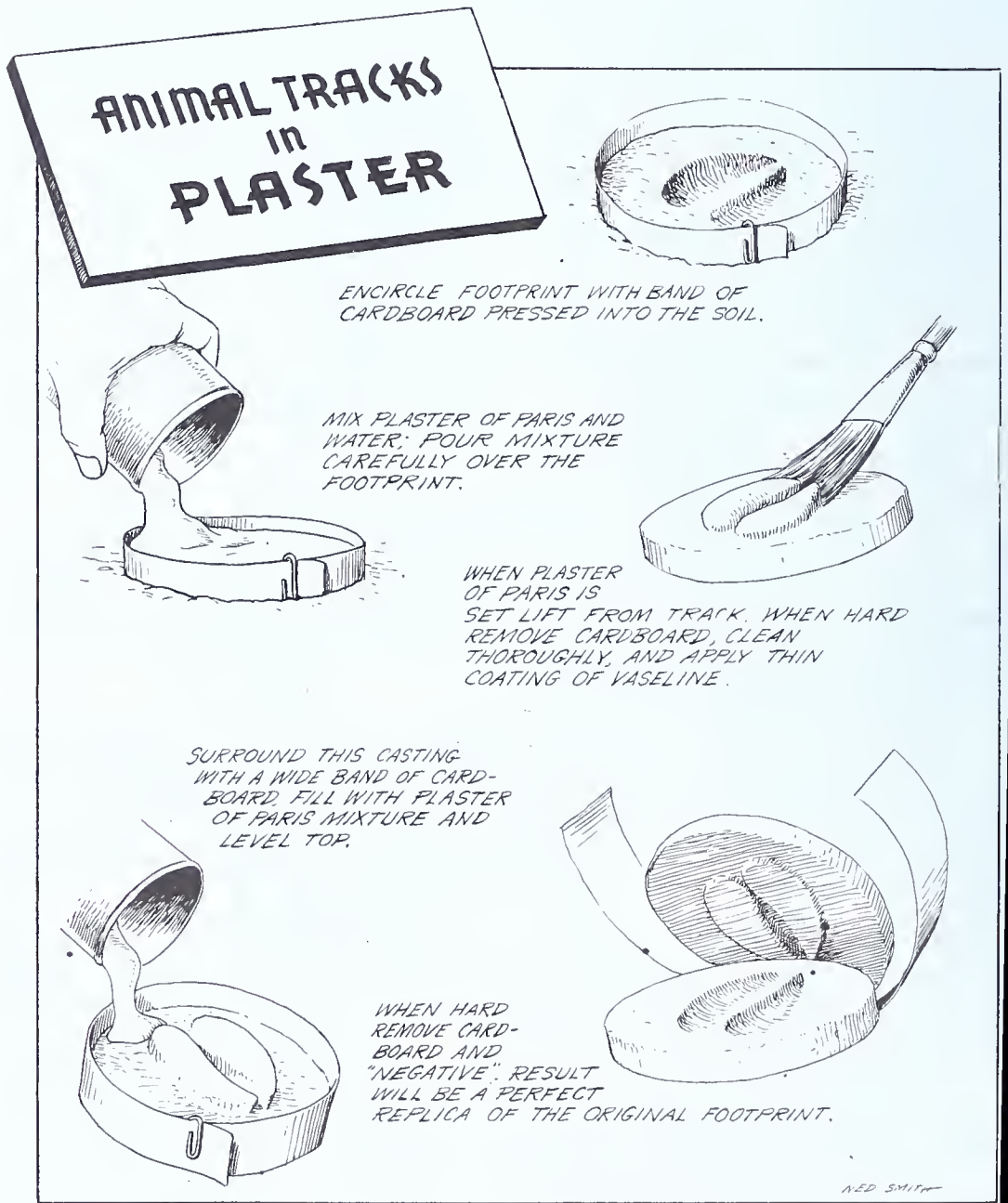
If you live near sandy road, mud flats, rivers, buoys, beaches, ponds, swamps or marshes, you may be able to carry out an interesting project. You can learn animals by their tracks, and even make a plaster cast collection of those tracks.

The best places to look for tracks are in soft dirt, mud or sand, where animals hop about, or walk in search of food. Frequently, mud puddles in country roads, or other places where birds may bathe, will produce tracks. But if you don't live near any of these places, there is still a trick you may use.

Find a place in the yard that you

may dig up and soften, so that birds will make an impression as they walk through the area. Then sink a tin can in the center of the patch and fill the can with bird seed. As the birds find the food within a few days, and walk around the can to feed, they will leave their tracks in the dirt. Watch the birds and then go over to the patch of dirt and study the tracks. Look for the number of toes and their position. Try to discover if the birds walk or hop. If they hop, the tracks will be in pairs, side by side. If the bird walks, the foot prints will be single, one in front of the other.

Sometimes the dirt or sand may be too dry to make plaster casts. If this is the case, place some shellac in



an insect spray gun, and from four or five feet away, spray shellac over the track. Be careful, though not to blow away the sand or dirt. The shellac will hold the dirt in place, so that you can make a plaster print of it.

The next step is to mix some plaster of Paris in a can of water until it resembles melted ice cream in thickness. Then roll a strip of cardboard into a circle, and place it over the track. Stick the cardboard into the dirt around the track, but do not disturb the track. Then gently pour the plaster into the cardboard mold. The plaster will take about twenty minutes to harden. As it hardens, place a few short sticks across the plaster, inside the cardboard, and pour a little more plaster on top. These sticks will reinforce the plaster and keep it from the mold and, using an old toothbrush, or stiff brush, carefully brush off the dirt or sand that sticks to it.

This cast is known as the negative, and with it you can make as many casts of that track as you want.

The next step is to decide upon the size of the casts you want. Then make a frame of wood that size.

To make the positive cast—that is, the cast that resembles the natural track—first cover the negative cast with Vaseline. Then lay on a flat board the wood frame that you made, and fill it with plaster of Paris. Press the negative into the soft plaster and leave it there until the plaster is thoroughly hard. Then remove it from the mold, being careful not to crack the plaster. Before you forget it, write the name of the animal and the date, on the flat top of the cast.

As you build up the collection of casts, you may want to use them for decorations in your home; or in your classroom, scout troop meeting room or camp museum. They make attractive decorations and interesting ones to keep.

You may also make an attractive walk in your garden or back yard, by pressing the negative casts into soft cement, and by leaving them there until the cement hardens. You can make a frame of wood about twelve inches square and three inches deep. Place it on a flat board, and pour in some soft cement. Press the Vaseline-covered negative in the cement. When the cement hardens, you will have a "brick" which you may use to make a walk or path through the garden.

Making casts is a lot of fun, and will help you learn birds by their tracks. You can find tracks all year round—in snow as well as in mud or dirt.

Soil Conservation Society Releases New Publication

"The Story of Land," a unique and effective booklet that adopts a comic-book format to tell the story of the use and misuse of land throughout the history of man, was released recently by the Soil Conservation Society of America. Containing numerous descriptive sketches and terse captions, the booklet highlights man's dependency on soil down through the years, according to the Wildlife Management Institute.

Although only one person in seven now lives on a farm in the United States, all of the people in our nation depend on the soil and its products for the necessities of life. Described are the reasons why human welfare demands that wasteful use of productive land be stopped, the progress that has been made under the program of the Soil Conservation Service, and the job that remains to be done.

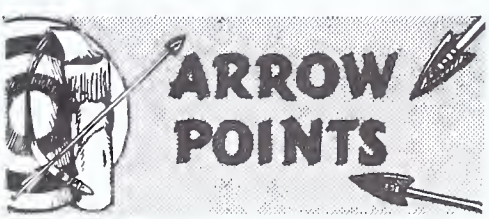
Copies of "The Story of Land" may be obtained from the Society at 1016 Paramount Building, Des Moines, Iowa, at 20 cents each.

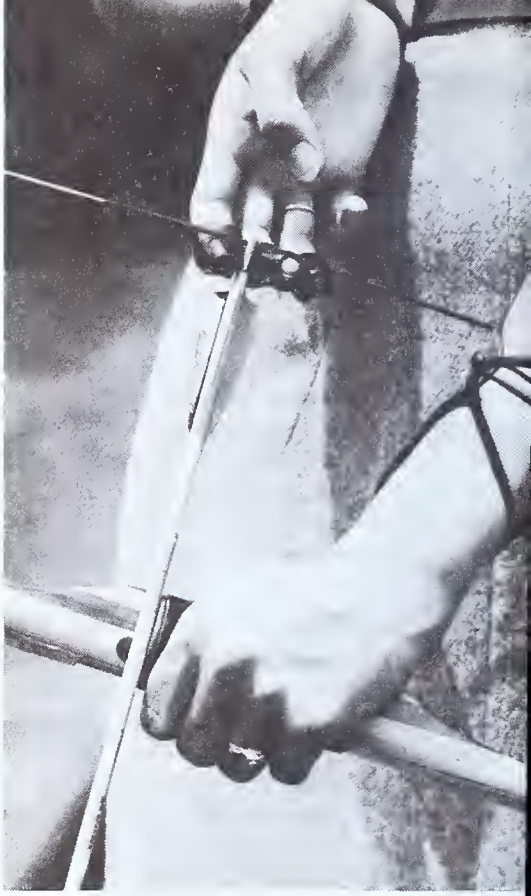
Hold and Release

By Tom Forbes

To loose an arrow properly is a precise operation and the manner in which the bow string is released is an important factor in securing a hit on the target. An instantaneous release from a fixed point is the ideal which we can only approximate. The closer our form approaches the ideal the greater the number of hits we will secure on the target. The physical act of releasing the bow string should be simply a relaxation of the tension in the drawing fingers.

The position of the first three fingers of the drawing hand on the bow string plays a very important part in securing a good release. Place the first three fingers on the bow string so that the string is at the first joint. The forearm, wrist, hand and drawing fingers should form a straight line. Apply a small amount of pressure on the string to begin the draw and permit the bow string to roll toward the finger tips, bunching the flesh toward the ends of the fingers. At the same time bend the drawing fingers at the first joint. The bow string will now pass across the drawing fingers about half way between





FIRST THREE FINGERS in drawing hand play an important part in good arrow release. They should not resemble a "claw."

the finger tip and the first joint of each of the drawing fingers. Maintain this position throughout the length of the draw.

The natural inclination is to let the drawing fingers bend first at the second joint as they do when making a fist. This tendency must be overcome. It is of paramount importance that we maintain the forearm, wrist, hand and that portion of the drawing fingers exclusive of the first joints in one continuous straight line. A simple exercise can be performed to develop the ability to bend only the first joint of each of the drawing fingers. Raise the thumb of the bow hand to a vertical position and let it simulate the bow string. Place the three fingers of the drawing hand on the thumb in the manner just described and exert pressure similar to that used in making the draw. With a little practice you will be able to

maintain pressure on your thumb by bending only the first joints of your drawing fingers. The remainder of your drawing fingers, hand, wrist, and forearm act as a rope to connect the first joints of your fingers to your elbow.

The second step necessary is to make the draw in a line which is a prolongation of the shaft of the arrow with your forearm, wrist, hand, and drawing fingers, exclusive of the first joints assuming the position a rope would take in performing the same task.

At full draw you have reached your anchor point and are ready to release your arrow with a minimum amount of creep. If the release is made simply by relaxing the tension in the drawing fingers, the bowman's hand will remain at his anchor point and will not move forward in an attempt to free the drawing fingers from the bow string. The string will slip smoothly from the finger tips and without any effort on the bowman's part the drawing hand will move directly to the rear in the line of the arrow shaft. Our anatomy is such that this movement is limited to a very small distance, possibly two inches. Performed in the manner described this release will speed the arrow toward the target.

Faulty technique in the draw and release produces a number of undesirable results. If the tip of the arrow rises during the draw you are frequently accused of pinching the arrow nock between your drawing fingers. More likely you are not applying the drawing force in the line of the arrow shaft and are cocking your wrist slightly thus raising the tip of the arrow.

In attempting to draw a heavy bow many beginners grasp the bow string at the first joint of the drawing fingers with the fingers of the hand partially closed and resembling a claw. Creep, which is forward movement of the arrow during the act of releasing is impossible to maintain at a minimum with such a grip on the bow string. Realizing the difficulty encountered in releasing the bow string under such circumstances the bowman may attempt to speed up his release by allowing his drawing hand to move forward with the bow string as he straightens out his fingers, or, and this fault is frequently observed, deliberately throwing his hand away from his face in order to disengage the fingers from the bow string. In the first instance the arrow will leave the bow propelled by a force which will vary with the distance the drawing hand moves forward in releasing the bow string. Elevation will be difficult if not impossible to judge under these circumstances. In the second instance, which is commonly called "flipping," the arrow will fly wide of the mark depending on how far it has been drawn off the line of sight to the target in the act of releasing the fingers from the string in this manner.

A minimum amount of creep is in-

EACH RELEASE should be smooth, effortless and identical. "Flipping" is common among field archers who try to shoot too heavy a bow.



evitable with any release and the bowman is constantly on guard against it. He attempts to achieve a smooth, effortless and identical release at each loosing of an arrow from his bow. "Flipping" is more common among field archers who attempt to learn to shoot with a heavy hunting bow with which they are unable to practice good shooting form or technique.

Too little attention is frequently paid to positioning the bow hand. Actually bow manufacturers with few exceptions have done very little to improve the grip on the bow. The practice, and it is common in the trade, of building up the belly of the bow to form the grip increases the difficulty encountered in holding the bow on line. If your bow shakes or vibrates in your hand when you shoot, it is a good bet that the bow limbs have not followed the plane of the string on the draw. The limbs have twisted to one side or the other and your arrow will fly wide of the mark; to the right if the bow twists clockwise as viewed from a position overhead and to the left if the limbs of the bow twist counter clockwise. Such a bow is said to be lacking in stability.

A grip should fit snugly in the hand when held loosely at full draw. If it feels comfortable and shoots smoothly it should shoot accurately. Avoid a narrow grip. It is unstable and will twist easily in the hand when the bow is drawn regardless of the force with which you grip the bow in an effort to control it. To demonstrate the effect your grip has on accuracy you need only grasp the grip firmly and twist it slightly to one side or the other as you make the draw. When you loose the arrow the result will be obvious. Frequently when you have been shooting for a considerable length of time you will unconsciously cock your wrist to relieve the strain. When you do the lower part of the grip will come in contact with the heel of your hand. You are accutely aware that this has happened when your arrow for no other apparent reason strikes a foot or more above its intended mark.

HOW TO OBTAIN A SPECIAL ARCHERY LICENSE

Application forms for a Special Archery License can be obtained from any County Treasurer, any hunting license issuing agent, the Pennsylvania Department of Revenue or the Pennsylvania Game Commission at Harrisburg.

To obtain a Special Archery License, first secure your resident or nonresident hunting license, then submit a completed application and the fee of $2.00 (cashiers checks or money orders, payable to the: Pennsylvania Department of Revenue) to the Department of Revenue, Room 304, Finance Building, Harrisburg, Pa. This Department is the *only agency* from which Special Archery Licenses can be obtained.

A Resident or Nonresident Hunting License and a Special Archery License are required by *each person* (no exceptions) to hunt for male deer with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, with bow and arrow during the state-wide exclusive bow and arrow season October 10-22, both dates inclusive except for Sunday, October 16.

Choosing A Scope



By Ed Shearer

PART II

IN a 90 minute drive from my home in the mountains, I can see anywhere from 10 to 50 deer. From midsummer to hunting season you can see them in all kinds of light, at all ranges, and against all types of backgrounds. It's a wonderful testing ground. Over the years I have fired "dry runs" on hundreds of deer with all kinds of sights, scopes and reticules having cross-hairs and dots of varying diameters. To me this is the final test, no matter what the book says. You can't hit what you can't see, whether it's with a brick or a rifle.

About 5 years ago I decided for the benefit of readers of the GAME NEWS, to see how far down the financial scale I could go and still have a combination of scope and rifle that would stand up from the viewpoint of strength, reliability and accuracy, in the hunting field. For the experiment a 722 Remington 257 caliber and a Weaver J-4 scope with Weaver side mounts—well selected. Not because they were any better but they were representative of similar class outfits I had in mind and the dealer happened to have them in stock. The field of view was 26 feet and the X hairs were not quite 2 minutes of angle. Here is the record.



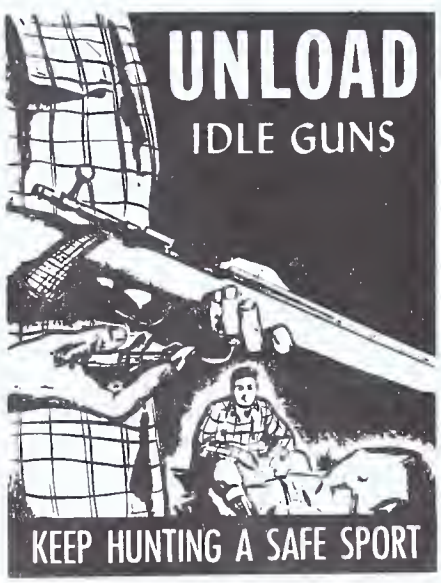
The rifle has fired hundreds of rounds both with factory and heavy handloads. The scope and mount has withstood the rough handling incident to the hunting field and chuck hunting in auto's, without becoming loose (the base mount screws were dipped in iodine) or the rifle changing its point of impact beyond normal weather conditions. I have used it in the rain and snow without any ill effects. It was only out of commission once and that was in a veritable blizzard where any sights were of doubtful value.

On dry runs on well over 100 deer from all ranges out to 300 yards under all conditions, I had no trouble picking up either the X-hairs or the deer. One evening in the deep dusk on a brushy flat a deer standing 75 yards away was only a shadowy blur, that would have made iron sights useless. I had no trouble in picking it up with the X-hairs in the J-4 for a killing shot. On actual kills from 15

yards to 200 yards it performed as expected. The 15 yard shot merits some comment as it touches on the diameter of the field of view.

I was standing on a narrow forestry road on a steep mountainside with a rather high bank. A large doe came tearing down and leaped off the high side to clear the road, 15 yards away. I caught her in the scope as she leaped. At that range she about filled the field of view of the J-4. I paid no attention to the X-hairs but swung with her in mid-air the same as you would on a close crossing shot on grouse. She dropped on the opposite edge of the road with a shoulder shot. I often wonder whether the smaller field did not give me the edge on that shot.

Accuracy under good conditions hung close to one minute of angle at 100 and 200 yards, bench rest 5 shot groups with handloads. On varmints it takes crows easily at 175 yards and chucks 50 yards farther, more if they are sitting up. This is about all any 4 power will do with the same size X-hairs. I have owned and shot plenty of much higher priced 4 power scopes that gave me a brighter image and a little better detail—but they would not kill a deer any deader than that old J-4.



Now let me repeat the above is not a claim or endorsement of any special virtues for that combination. There are several in the same class that will do equally well. Nor does it mean that higher priced scopes in the same class are not worth their additional cost or have some advantages. It was just an experiment for the benefit of budget harried shooters to show that economical combinations (not cheap) available will give reliable, satisfactory service and a whale of a lot of pleasure.

Naturally out of the years have come some basic truths which I believe are more important to the beginner than the make or model of the scope. Here is the way they stack up for me. First—a scope sight is no substitute for marksmanship, it merely enables you to see better. Two —A perfect stock fit for the telescope line of sight is of paramount importance, just as it is to a grouse or woodcock shooter. The comb of the stock must come right up to the cheek bone thus directing the eye right down the line of sight through the center of the scope, and giving support to the face. This is not only vital in fast accurate shooting but also determines to a large degree the size of the field of view and diameter of the dot or X-hairs you can use successfully.

For example, when an average fast shot comes up, you throw your rifle to your shoulder. The comb of the stock directs the eye through the center of the scope. The eye picks up the X-hairs or dot and the game in on operation because it comes up where you are looking. Just the same as your grouse or woodcock gun. This can handle a scope with a comparatively smaller field and X-hairs.

Now take the joker who puts a scope on a rifle stocked for metallic sights, usually mounted fairly high. On the same shot the point of his chin hits the comb of the stock. He

waggles his head with all the animation of his shirt-tail in a breeze, trying to find a full field of view in his scope, then the game and finally the X-hairs. He needs a field of view as big as all outdoors and an elephant size dot.

So build up that comb, using leather, cheek pieces or odd lumber, but build it up. Even so-called high comb stocks are seldom high enough for a perfect fit. Remember the more critical you are on perfect stock fit, the faster and more accurately you can shoot. Like the patent medicine sign, "accept no substitute."

Third—The size of the X hairs, dot or what have you in the reticule. There are more divergent opinions on this than fleas on a mongrel dog. For deer on up, one authority wouldn't be caught with anything less than a 4 minute dot, while another would raise his eyebrows at anything over 2 minutes. I do not think we can be dogmatic. It depends on several factors, such as how perfect a stock fit—amount of shooting one does with a scope and individual eyesight plus personal speed of reflex's.

Brush can be argued both ways which is the 4 minute dot man's favorite point. He is talking in terms of picture deer and the pictures that go with the story bears this out. But any Old Hivernant can tell you of the times you just see a buck's head sticking out from behind a stump or tree or maybe a vital spot as big as your hand exposed between two trees, to say nothing of the times when there may only be a hand's breadth clear path through thick brush for a vital shot. I just measured the head of a big buck that hangs over my desk as I write. He weighed 196 pounds dressed with a 22 inch spread, which is some bigger than the general run we are killing today. His head measures 5¾ inches on a line drawn from the brow down through the eye to the bottom of the jaw. A vital shot measures 3¼ by 3½ inches. Suppose



you had a head shot at 85 or 90 yards. Do you think you would be happy with a 4 minute dot that covers up what you have to shoot for, with a trophy like that at stake? Personally, I get by with a two minute reticule. The sensible thing is not to use any bigger dot or X hairs than is necessary for a quick, accurate aim for you personally under all light conditions. Larger than this you are only handicapping yourself.

When it comes to varmint scopes the lines are more sharply drawn because the targets are small. A 12 power ultra varmint scope with a 4 minute dot would be worthless while a good 4 power scope with a 1 minute dot would take chucks up to 250 yards. So with a varmint scope good sense seems to point to the 1 minute dot or X hair for general purpose. If you yearn for the far horizons a half minute outfit is better. If you strain your eyes, you have plenty of time to unstrain them at those ranges.

Fourth — Practice throwing your rifle to your shoulder with both eyes open and focused on an object. Your one eye will see the object direct; the other will see it through the scope. If it don't, the stock does not fit properly. You can always shut the other eye quickly thus leaving the

target lined up in the center of the scope. Practice makes for speed.

Now in general do not under or over scope your rifle. A long range 4 or 6 power scope would be out of place on a 30/30 lever action rifle. It has neither the range nor the accuracy to take advantage of the scope. A 2½ power scope with as coarse a dot or X hair as you personally use for fast shooting would be just the ticket. With rifles of the 257—270—30/06 class, a 4 power appears to be the best all-round choice. For the 222 varmint class or long range game shooting the 6 power is the best bet. When it comes to the 220 Swift class of varmint rifles it will take at least a 10 power for the long range accuracy of the rifle.

It's also a good idea to be sure the scope and mounts will position on your rifle to allow adjustments for different shooting positions. In mounts for an outright big game rifle where you may be far away from a gunsmith, one that will leave iron sights available is desirable. There are many side mounts and swing-outs like the Pachmeyer and Weaver to choose from. Mounts, like scopes, are a personal choice limited only by what you want them to do.

Summing up, if the beginner keeps the points outlined in mind and sticks to reputable makes, he should make a pretty good choice for his needs. Buy the best you can afford but always keep in mind it's not the price of the scope but learning how to use it that opens up a new world of shooting pleasure.

THINGS YOU MAY NOT KNOW—

Geese, timed by airplane speedometer, can travel at 60 miles per hour, and they hold the altitude record of 29,000 feet which is nearly 5½ miles.

* * *

The flying fox, largest of the bats, sometimes has a wingspread of five feet. It feeds mostly on fruit.

* * *

The woodcock is the only bird in the western hemisphere whose upper bill is movable, and the beak can be used like a pair of tweezers to grasp food below the surface of the ground.

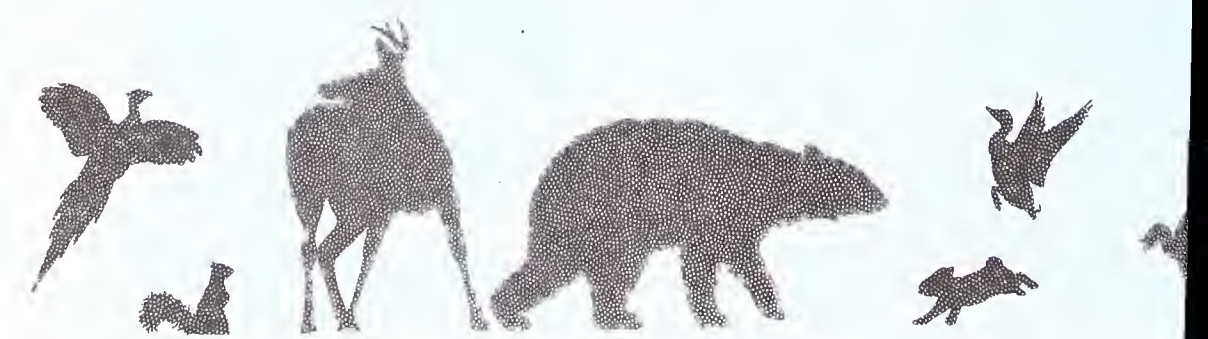
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Phone: 5400
Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—A. G. Logue, Supervisor, 327 Penn St., Huntingdon.
Phone: 872
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHWEST DIVISION—T. A. Reynolds, Supervisor, 422 13th St., Franklin.
Phone: Idlewild 2-5610
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 331 E. Main St., Ligonier.
Phone: BEverly 8-9519
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Pennsylvania Official 1955 Open Seasons and Bag Limits

(Regulations apply for Hunting License Year, September 1, 1955-August 31, 1956)

Open season includes first and last dates listed, Sundays excepted, for game. The openi hour for small game and other wild birds or animals on October 29 will be 9:00 A. M. Otherwi shooting hours daily are from 7:00 A. M. to 5:00 P. M., but from July 1 to September 30 incl sive, 6:00 A. M. to 7:30 P. M., excepting the hours for the October archers' deer season which 6:00 A. M. to 5:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	Day	Season	First Day	Last Day
Ruffed Grouse	2	8	Oct. 29	Nov. 26
Bobwhite Quail	4	12	Oct. 29	Nov. 26
Wild Turkeys	1	1	Oct. 29	Nov. 26
Ringneck Pheasants, males only	2	8	Oct. 29	Nov. 26
Rabbits, Cottontail	4	20	Oct. 29	Nov. 26
Squirrels, Gray, Black & Fox (combined)	6	24	Oct. 29	Nov. 26
Squirrels, Red (closed October 1 to 28 incl.)	Unlimited		All mos. (except Oct. 1-	
Hares (Snowshoe Rabbits)	2	6	Jan. 2	Jan. 7, 1
Raccoons	Unlimited		Unprotected	
Woodchucks (Groundhogs)	Unlimited		Unprotected	
Grackles	Unlimited		Unprotected	
Bears, over one year old, by individual	1	1	Nov. 14	Nov. 26
Bears, as above, by hunting party of three or more..	2	2	Nov. 14	Nov. 26
DEER: **Bow and Arrow Season**—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal (requires hunting license and Special Archery License), by individual	1	1	Oct. 10	Oct. 22
DEER: **Regular Season**—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, by individual..			Nov. 28	Dec. 10
DEER: **Antlerless Season**—(requires hunting license and Antlerless Deer License), by individual			Dec. 12	Dec. 13

NO OPEN SEASON—Hungarian Partridges, Hen Pheasants, Sharp-tailed Grouse, Cub Bears, E Spike Bucks with antlers less than three inches long, and Otters.

FURBEARERS:

Skunks and Opossums	Unlimited		Unprotected	
Minks	Unlimited		Nov. 5	Dec. 31, 1
Muskrats (traps only)	Unlimited		Dec. 3	Jan. 28, 1
Beavers (traps only) state-wide	4	4	Feb. 15	Mar. 5, 1

SPECIAL REGULATIONS

POSSESSION AND TRANSPORTATION LIMITS of legally-killed small game shall mean not m than the daily limit for the first day nor more than an accumulated total for each succeed day of the open season for each species; but not in excess of the season limit, regardless where held, stored or found in possession.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more th one deer during the three combined 1955 seasons, whether hunting individually or with a ca or hunting party. A Special Archery License is required during Bow and Arrow Season, issu only by the Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issu only by County Treasurers, at a fee of $1.15, and valid only in the county for which issu Farm occupants permitted by law to hunt without a license may also hunt for antlerl deer during the Antlerless Season on the same land as for other game. See Digest issued w hunting license for details. Under the law, no application for an Antlerless Deer License sh be approved, or license issued, to a Nonresident prior to November 12, or after December 11, 19

BEAVERS—No trapping at Commission-posted dams. Nonresidents may not trap beavers. One p son may set, tend or operate 10 traps only. Traps must not be set on the structure of a beaver dam or house, or within 25 feet of the waterline on the structure of either there Tags must be kept above ice or waterline to facilitate identification without disturbing tra Pelts must be tagged within 10 days after season, and may not be sold or otherwise dispos of until properly tagged. Present them to the Game Protector in District or County wh trapped.

TRAPPING—Traps for furbearers not to be placed, staked or set before 7:00 A. M. on the fi day of the open seasons. The season indicated for Trapping closes at 12:00 o'clock Noon last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (July 1, 19

PENNSYLVANIA

Game News

OCTOBER, 1955 TEN CENTS



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THE STORY BEHIND THE COVER

TAKE a medium-sized hunting dog, weighing about fifty pounds and standing not quite two feet tall wrap him in a dense but not curly coat; blotch or splatter his white fu with black or liver colors—there yo have the Springer Spaniel. But more important and characteristically, add a gentle disposition, an inborn love of hunting, a ready willingness to retrieve game from land or water, and an all-around ability to win your heart both at home and in the field.

Springers trace their ancestory far back into the history of hunting dogs Just how far back and to what country is not certain. Spaniel-like dogs are known, through art, as far back as 3000 B.C. One of the first white men to visit North America reported the Indians had Spaniel dogs. Long ago, how ever, the spaniel family was divided into two main groupings—those tha worked mainly on land and those that were water specialists. Springers be long to the land class and got their name from their training to flush, o "spring," game ahead of the Greyhounds or falcons used in the age-old spor of falconry.

The modern history of the Springer Spaniel dates back to 1899 when th first field trials for them were held in England. Springers didn't place among the top three spaniel breeds in those first tests but it wasn't long before the began to whip the Clumbers and Cockers. In 1903 the breed was first ex hibited at English bench shows and ever since, Springers have won the heart of countless sportsmen.

Someone once remarked that those who rate the Springer so high are thos who never had a good pointer or setter. Fact is, ever since the pheasant be came the most popular game bird in America, Springer Spaniels were boun to gain recognition. Only the very best of the pointers and setters can pi and hold a ringneck rooster. But the Springer is a natural when it comes t hunting the slinking feather-merchant from China. He quarters his groun stays within gun range, and sooner or later flushes the pheasant into the a for his master. He may not be steady to wing and shot but most sportsme don't mind that after watching the famous Springer retrieving ability i action. And most good Springers get just as much fun hunting rabbits, grou and any other game, even doing well on retrieving waterfowl. Perhaps n other dog comes as close to being an all-around canine hunting companio

Surely no other type of dog would satisfy Arthur Eakin, of Gaybird Far at Carversville. He owns the trio of Springers shown on this month's cove In fact, the one in the middle is Flyer's Ginger, a national champion of few years back. Like thousands of satisfied Springer owners, he wonders whe else can you get an excellent hunting dog, a family pet and devoted co panion—all rolled into one animal.

PENNSYLVANIA
Game News

Published Monthly
by the
Pennsylvania Game Commission
Commonwealth of Pennsylvania
GEORGE M. LEADER, *Governor*

★

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PENNSYLVANIA GAME NEWS

Will Johns .....Editor
Zelda Ross .....Circulation

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OCTOBER, 1955

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Month of Preparation

SOUTH-BOUND wings whispering from the sky . . . squirrels speeding noisely through the nut trees, building a rich hoard against the months of the Knife Wind . . . the seven sleepers laboring at their dens, insuring them against storm and snow . . . the antlers of bucks in the oak thickets rattling with the urgency of the season . . . the black bear and his "little brother" busy putting on layers of winter fat . . .

October is the month of preparation—a time of storing, hurrying, moving as the pulse of the wild leaps with the tangy air and the first forebodings of winter. And for a multitude of men, also a time to prepare—to count shot and shell, to dust-off guns and boots, to take dogs afield for their last minute instructions. Yes, there is a stir, now, after the laziness of summer; a sense of business, breathlessness, anticipation.

Already the advance scouts—the bowhunter, wildfowler and woodcock specialist – are afield in search of sport and game. Every effort has been made to prepare wildlife for them. But how well are hunters preparing themselves?

Will they go out into the colorful fields of fall with a greater vision, a better understanding of conservation and their favorite sport? Will they realize that wildlife is being pushed to the wall, not so much by the gun as by their own civilization: the plow, the ax, cattle, fire, construction and pollution? Will they remember that their wildlife heritage is a trust, that it belongs to future generations as well as to themselves?

Will they adjust to each other and to their landowner hosts, expecting no constant "full limit" because each is equally entitled to only a fair share? And finally, will each hunter prepare himself this year to play it safe, to safeguard himself and, by example and training, prepare others against hunting accidents? Will everyone realize as never before that it is far better to pass up a shot at game today than to lose a friend forever?

October is the month of preparation; for wildlife, that it may live through another winter; for hunters, that they may take a fair share of wildlife surpluses and a full measure of sportsmanship.

And October is also a time to think of the future. For as the hunter thinks . . . what he does in the field *to* wildlife and what he does as a citizen *for* wildlife—on this depends that future.

. . . From the *Missouri Conservationist*





The Lure Of The Camp

By Ross L. Leffler

SOME recent anthropologists regard the amusements of the chase as pursued by civilized men and women—hunting, fishing, and the like—as "traces in modern civilization of original barbarism." If there is any truth to this theory, then there are many millions of healthy, normal, clear-eyed Americans who must confess that they are in a large measure barbarians. By barbarians I do not mean criminals, however. I think it is true that no one can really love the outdoors and become very immoral. A careful canvass of the penal institutions in this country shows that practically none of the inmates have ever shown an interest in hunting, fishing, camping, or outdoor sports.

Some people feel it is cruel and wanton to kill for sport and they decry the practice, forgetting that Dame Nature herself is a hard taskmistress and that the majority of wild creatures meet with violent death under the rigid rule of Nature. A sportsman's bullet is often much more merciful. Yet these same people will eat beef, pork, or lamb without a thought of how it was killed. The sentiment against the killing of female deer has no logical foundation since in the natural scheme of things the potential father is also somewhat necessary in the production of progeny.

My plea is for the grown-up boy who, though he may have silver in his hair, is still endowed with the heart of youth and has not forgotten how to play—the man who loves the outdoors in all of her moods and will cheerfully drive many miles on a wintry day with a few bushels of feed in his car for the wildlife. He honestly believes he has made the trip just to do a good turn, but 'way down deep in his heart there is an uncontrollable desire to see again that rocky pool with the little fall

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ROSS L. LEFFLER, Pittsburgh, is a member of the Pennsylvania Game Commission. First appointed to the board in 1927, he has served continuously except for a four year period 1931-35. This article is taken from a speech delivered to the Boy Scouts of America, Scranton, last May.



above, where he lost the biggest trout he ever had on his hook—or perhaps it is the worn stump from which he sighted the 12-point buck. Then again, it may be the deep hollow where seven grouse boomed into the air and he missed them all.

This same man will spend months selecting a $10 outing garment, but will take only fifteen minutes to purchase a $100 overcoat for business. When you see a man studying a sporting goods catalog and spending his lunch hours admiring the dealers' wares, look out, for it will not be long until he comes home with a new rod or gun to add to his already overstocked collection. He probably does not actually need it, but nevertheless he will have no peace of mind until the new "gadget" is acquired.

When all the duffel has at last been assembled, your home looks like a sporting goods store. And after time-tables and road maps have been carefully studied, there comes that great day when the camp looms close.

Through all the great range of sport with rod or gun or camera—the pursuit of fur, feather, fin, or health—there is a kindred note, a basic principle, which underlies the specific purpose in the sportsman's mind. The prime factor, after all, is his desire to get out in the open. Whether a man be after bird or bear, trout or caribou; whether his weapon be rifle, shotgun, jointed rod, or camera; the cool, clean four walls of his nomadic habitation embrace all the best moments of his play-time days. The camp, the tent, the bit of shelter in the middle of a great silence with the vast possibilities of the wilderness around it—whether it be located on a spruce-bordered lake in the far north where the geese wheel overhead and the muffled roar of a distant rapid or the cry of a loon is the only sound to break the silence, and where at night when it is frosty the Northern Lights flash across the sky; or whether it be in the steaming stillness of an orchid-scented glade near a bamboo-built village in that sweat bath beneath the line—that camp is where the plans are made, the quarry gloated over, the day's sport re-lived, the stories told, the friendships cemented. That is where the big, blissful moments of the truant-time freedom are drunk into the very soul. Camper, hunter, fisherman, canoeist, all are tent dwellers, all are campers, all follow their chosen sport as an incident. They camp out and live—really live—in the clean wide, free sweep of an unbounded horizon, breathing untainted air, limitless as

the sky itself, and revel in a freedom that nothing else can give—a keen, stimulating, uncloying pleasure that thrills to the marrow, and then builds bone, sinew, and muscle and makes blood, strength, and fire, repairing the waste of months and years of toil and worry. That is why the most famous physicians use the tent and camp life as their favorite prescription, thereby giving happiness and lengthening life.

Get out in the open. Live in a tent and save your life. Take the tonic that Nature put for you into the wind, the sky, the sunshine, the smell of the earth, the rain, the spices of the pine, the balsam and hemlock odors, the salt of the sea, the ozone of the great out-of-doors, which no contrivance of man can duplicate or even imitate. Take it—it's yours; a king can have no more.

There's a bit of Paradise, only one mile, or five miles, or fifty miles at the most, from the cramped little spot where you sit at this moment breathing air tainted and burdened with the worries, fears, and bitterness of the past few years. Your trials, your sorrows, your disappointments are ground into the walls around you, stamped into the floors you walk on, woven into all the familiar things you see every day.

Run away to this bit of Paradise, pitch your tent—and live. The soft, warm air from woods and fields will soak into the kernel of your being as you loaf before your camp door and watch the timid, friendly forest creatures that come to the edge of the clearing to investigate your camp. A steady flow of strength will rise from the warm earth beneath you and give you a new vitality. You, who sleep poorly now, will drowse even in the daytime. When it rains, you will nestle, dry and warm, in your blankets, hearing the quick patter on your canvas walls and on the leaves outside, and feel the added freshness in the air that makes you seem years younger, just as it makes the growin things younger and more vigorou and more beautiful.

And when the soft, black nigh falls, you will sit outside your tent i front of a blazing camp fire—the firs emblem of man's superiority over th beasts—and smoke an old pipe whil you reminisce with those tried an true comrades of yours, as th shadows melt together through th lofty arches of the trees and form dusky, protecting curtain which res your eyes and brain and soul.

Then someone may light a bi yellow moon for you which will sa grandly up over the treetops. Th little stars will peep out and twinkl funny, friendly eyes at you, and a the little night noises begin softl and confidentially to whisper of peaceful world that for years ha been just waiting for you to tak your proper place in it. The cricke sing, the big pines croon an anthen and away off yonder a hound do sends a note ringing like a be across the valley.

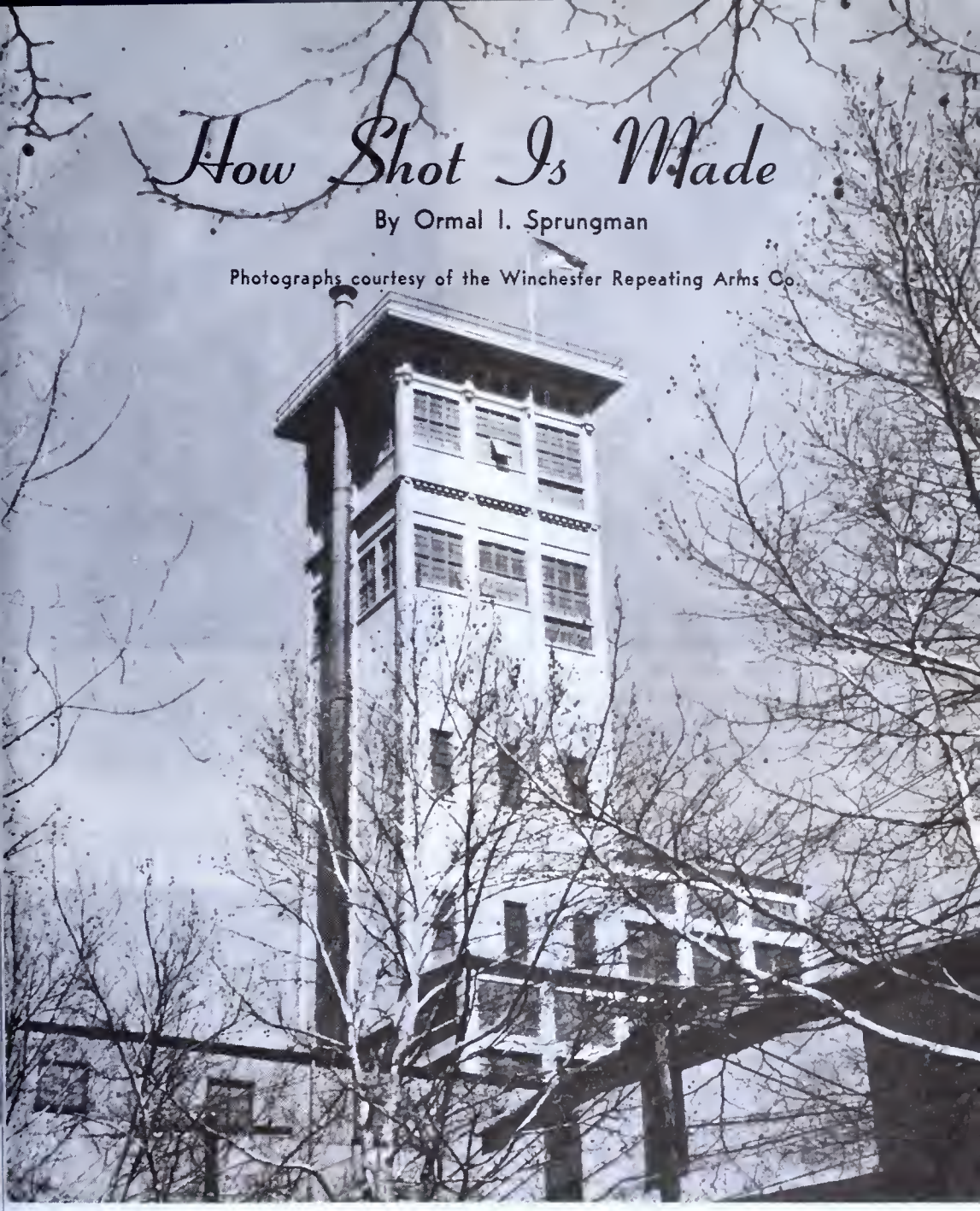
Your bit of Paradise is alwa within reach if you only realize i Take advantage of these opportun ties. They are yours to *enjoy*, not *destroy*.



How Shot Is Made

By Ormal I. Sprungman

Photographs courtesy of the Winchester Repeating Arms Co.



FEW Pennsylvania hunters, gunning for waterfowl and upland game, realize the amount of work required to produce a single shotshell, which slides so easily into the chamber and magically transforms a flying bird into such a fine trophy of the hunt.

Not the least fascinating is the process used in manufacturing shot, as shown in these photographs taken in the famous shot tower of the New Haven plant of Winchester. Here raw lead is melted at 700° F. in a 11-ton pot, and passed through a perforated dropping pan to fall 154 feet into a water-cooled tank. Here pellets are checked and fed into storage bins to await packing in shells.

The size of the shot depends on the size of the openings in the dropping pan. Keystone scattergunners, who have sometimes wondered how many pellets are found in the shell

sizes they shoot, may wish to clip this check list for future reference, reprinted through courtesy of Remington Arms Company:

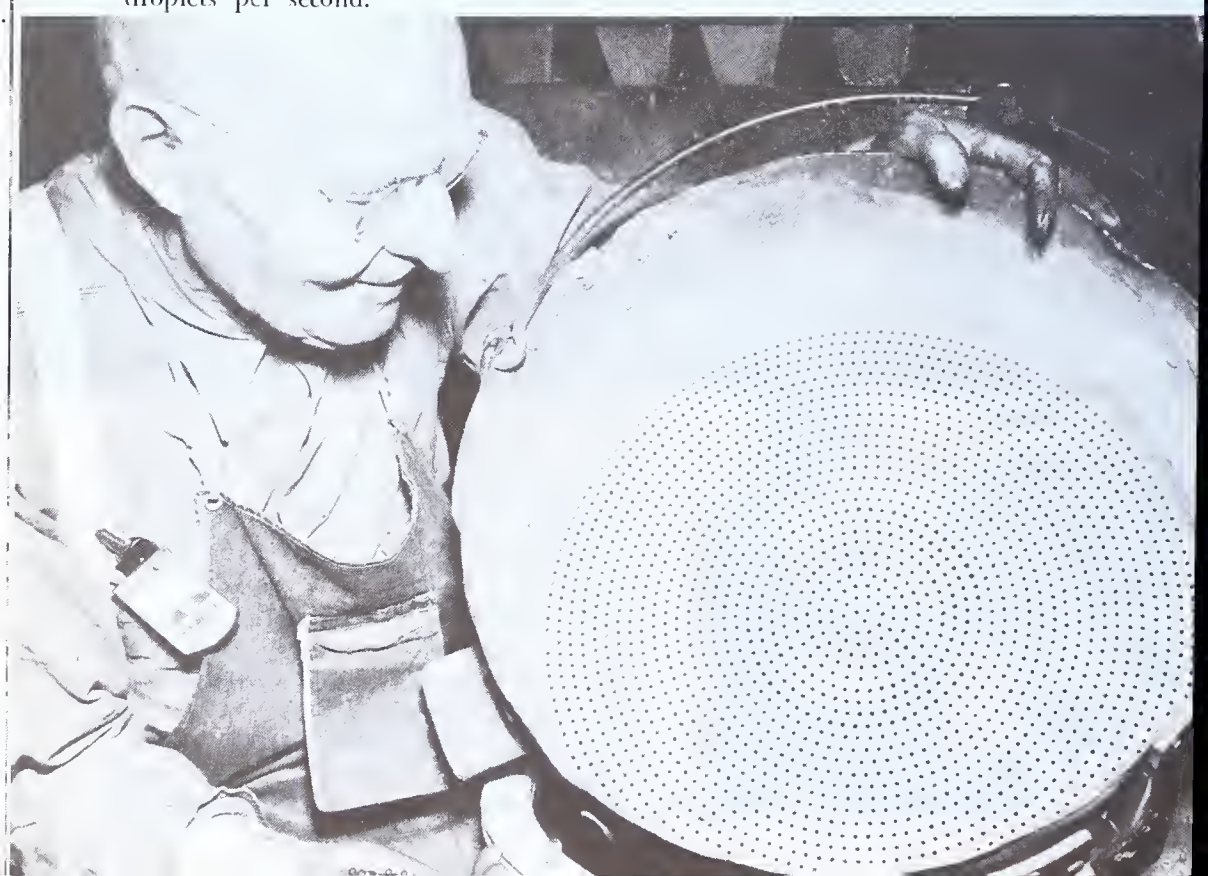
Shot Size	*Pellets Per Ounce*
BB	50
2	88
4	136
5	172
6	223
7	299
7½	350
8	409
9	585
10	868
11	1380
12	2385

Since proper shot shell performance depends upon uniformity in shot sizes, great care is used in their manufacture to insure that they meet rigid size and weight specifications adopted by the industry itself.



RAW LEAD is received at Winchester i 98-pound "pigs." Here a worker slides lea into huge melting pot on ninth floor o shot tower. Pot has capacity of 11 ton maintained at temperature of about 700°

DROPPING PAN for No. 6 shot contains 2400 holes. Molten lead pours into pan whic separates it into droplets. These fall 154 feet into water tank at the rate of 9,99 droplets per second.





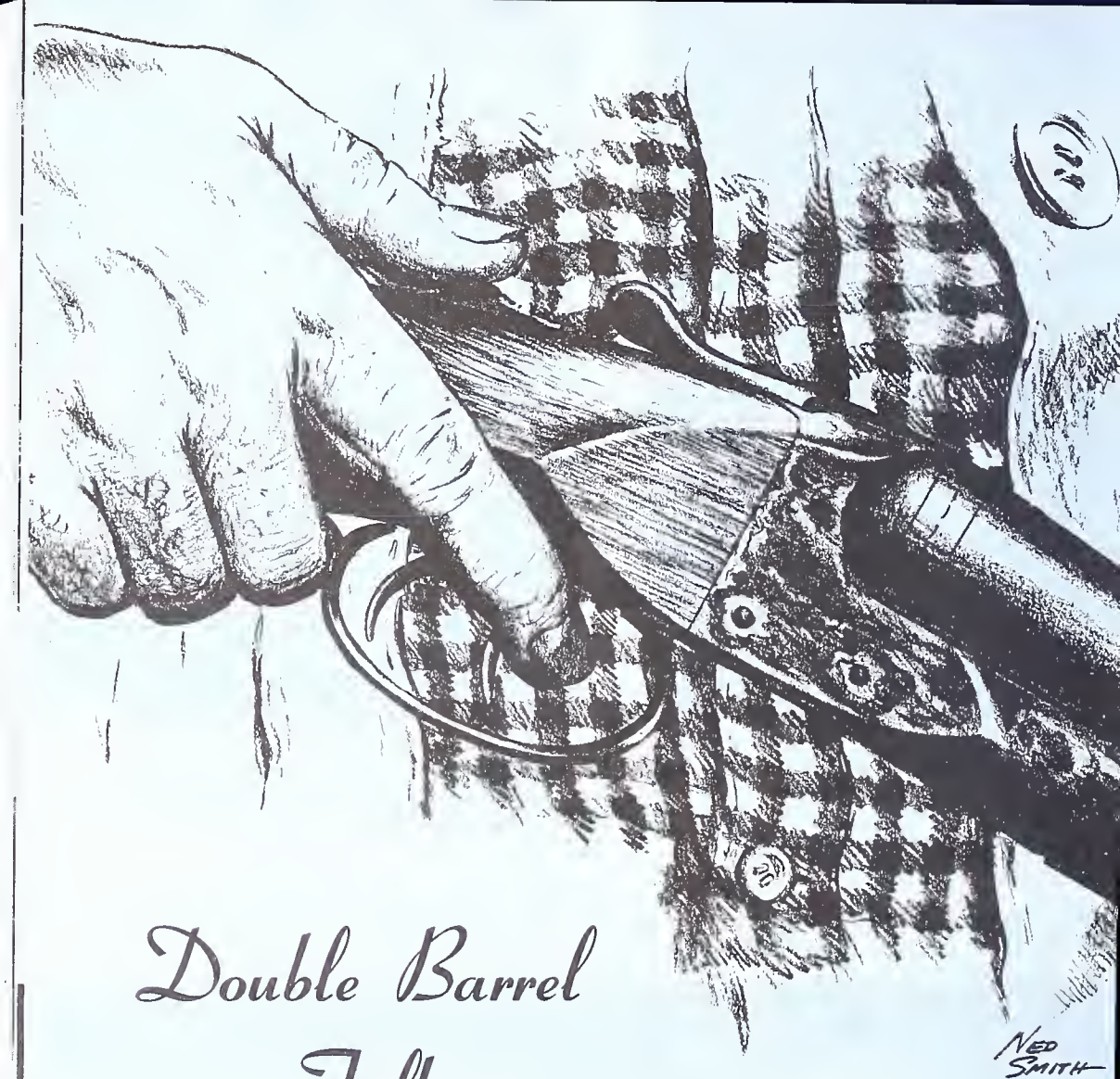
VISUAL CHECK is given newly-formed shot as it moves by conveyor from water tank to dryer. Although nearly perfect, some of this shot does not meet exacting standards and will be culled in next operation.



SLOPING GLASS TABLES and gravity separate off-shaped shot from perfect pellets. Culls fall into trough at bottom of each table. Perfect pellets hurdle trough into chute.

AFTER REMOVAL FROM STORAGE TANKS into metal containers, lead shot is fed into shot-shell loading machine which produces finished shell. Each shell requires more than 200 individual operations in its manufacture, starting with the lead pig.





Double Barrel Talk

By Bill Walsh

I'M a double barrel shotgun. I'm not like most other guns you've seen or used, though. Oh, I resemble an average gun. Left barrel full, right modified; a little checkering at the pistol grip; could use a blue job on the trigger guard, and we put a few scratches on the stock going through a briar patch a week or so ago. Then, what makes me so special?

Well, I'm not proud of it—but yesterday I killed a man. That is to say, Ralph and I did. He's my boss. He's sitting over there by the fireplace now, his head in his hand living through those minutes he probably never forget. A far diffe ent man from the lighthearted gu who found me in the store so eight years ago, swung me to h shoulder, liked the feel of my sto against his check and his should and bought me cash on the barr head.

Up until yesterday he and I e joyed some wonderful hunting t gether. He's a good shot, too. N the kind you'd expect to get mix up in an accident with a gun.

Many's the grouse he and I have levelled on until just the right minute in time and space to squeeze the trigger. Ralph was a sort of instinctive shooter with grouse. He never clicked off my "safe" until game was actually in sight and ready to be fired on. A swell guy. It sure hurts me to see him hunched over in his chair, looking into the fire with reddened eyes, aching to the core.

I was made to kill. I'm not so sensitive about it. But Ralph will never be the same. And I've got a hunch I'll gather a lot of dust here in the gun rack before I'm used again—probably by some stranger I'll get sold to.

Mary (she's Ralph's wife) is cuddled in her chair in the corner pretending to read a magazine. But she's thinking about Ralph and hurting inside the same as he is. She looks at him once in awhile, careful not to let him see her do it. But she needn't worry that he will. He's back there in the clover field bending over Jim. And Jim is lying there, clawing at the fire in his stomach, his hunting coat open, and a great red smear spreading across his shirt.

Ralph couldn't help seeing that red smear even as Jim lay in the coffin earlier this evening at the funeral home. Of course, it wasn't there. Jim was laid out in his blue suit; the one he wore to church and the one he had on at the club dance the evening before he was shot. All four of them had enjoyed the dance—Jim and Helen, his pretty wife, and Ralph and Mary. And when they got a chance Jim and Ralph had talked about the next day's hunt. They'd hunted together for years. In fact, Ralph introduced Jim to hunting and taught him all he knew. Jim looked up to Ralph as an ideal companion.

Ralph stayed at the funeral home as long as he could before he cracked up. Everyone knew it was an accident. Helen knew it. Even Jim's two small boys understood it. But that didn't bring him back. They came home and Ralph has been sitting there in front of the fire ever since. Looks to me as though that accident really killed two men.

I don't think there's anyone in the country who'd been a better gun handler than Ralph. In the entire eight years we've been together he never made one mistake or violated any of the smart gun handling rules until yesterday morning. Lots of fellows pull fast ones all the time and are seemingly forever lucky. Poor Ralph only had to let his guard down once and fortune lowered the boom.

We started out in darkness to get to a favorite hunting spot. Ringnecks and rabbits mostly, with once in awhile a few grouse mixed in. It had mixed cover—corn fields, buckwheat, broad clover patches, orchards, and an occasional woodlot. Ralph's dad and Jim were our



company for the day and we got there at sunrise, in plenty of time for the fellows to have a swig of coffee before uncasing the guns. Ralph never allowed uncased guns in the car. And at home he kept me and the others locked in the rack. The ammunition drawer was always locked, too.

Ralph and his dad split a box of shells, stuffing them into the shell loops of their jackets. Jim had put his shells in the coat at home and stood on the other side of the fence waiting for his partners to join him. Finally, they handed him their guns and his own, one at a time, then carefully crossed the fence. They had permission to hunt there any time and didn't want anything to happen to their privilege.

They made a good hunting trio, having spent many a day afield. Jim took the left spot in line, Ralph in the center, and Dad, as everyone called him, was on the right. This was their traditional line-up. When a bird or rabbit went to the left, Jim took it. If it was a center shot, Ralph got it, and Dad handled the shooting on the right side of the line.

Of course any rabbit or bird that decided to run the gauntlet got everyone's shells as his turn came around. Game that circled and run back between any two of the men was always considered out of bounds and was never fired on. They were careful boys and I was proud of them.

However, Jim worked a little bit close to Ralph as they emerged from a draw into a clover field—oh, maybe about 15 feet or so away. Ralph could see him plainly enough and there was no doubt where he was. Dad stood in the open about 20 yards to their right. Everyone was clearly marked. As they pushed into the field, a rabbit that had been sitting in the open made a dash for the draw they'd just left. It streaked between Ralph and Jim. Ralph figured quickly. He could see Jim. Da was at his right. After the rabbi cleared the line between him an Jim he'd turn around and bust hi going away without any danger t anyone.

As he turned, he clicked off th "safe" and curled his finger aroun the trigger, half raising the gun a he swung. His left foot encountere a smooth, dew-covered stone that la half-hidden beneath the clover an he momentarily lost his balance. Hi finger involuntarily tightened on th trigger. There was a roar as my righ barrel spoke out, and you know th rest. A shot charge at 15 feet make a nasty mess.

And I'm afraid a number of othe hunters are going to end up a broken hearted as Ralph is over ex actly the same thing unless the make it a hard and fast rule t NEVER SHOOT AT GAM THAT RUNS OR FLIES BAC THROUGH YOUR HUNTIN PARTY LINE. Some have been d ing it for years, lucky each time tha nothing happens.

Ralph is getting up now. Th fire's almost out. He's walking ove here to the gun rack, looking at m Now he turns and listlessly climb the stairs to bed, without a wor Mary lets her magazine drop to th floor and sits for a long time unt the fire is gone and the room grow cold.

* * *

Rattlesnakes, contrary to belief, d not seek to avenge the death of mate. They are attracted to th death scene by scent.

* * *

One female moth and her famil can destroy, in a single year, as muc wool as it would take one doze sheep to produce.

* * *

Bats are not attracted to lights b cause of the illumination. They catc the insects which are thus attracte

Are You Overlooking Coon?

By Jock Whitaker



Photo by the Author

Take Advantage Of Those Extra Nocturnal Hours To Experience The Thrills Our Abundant Ringtails Yield

"THERE'S old Bow singing treed!" Hec shouted from somewhere to my left while I plunged ahead through the darkened underbrush. The impatient barking of the triumphant dogs, echoing throughout the swampland, pleaded with us to hurry. Soon Wesley, Joe and I joined Hec at the huge oak the two eager dogs were attempting to climb.

Somewhere along the way, while groping through the brush, which to my eyes were only vague shapes of black and gray, and hearing strange foreboding forest noises blend with the familiar chirping crickets and bellowing frogs, I became convinced, skeptic that I was, that Wes Freeman was correct when he told me, "The biggest hunting thrill is hunting coon."

"There he is!" Hec shouted, pointing far up into the foliage of the massive gnarled tree with the beam of his flashlight. "See his eyes reflecting the light?" he said, handing me the revolver. "Aim for his head since you don't have climbing irons."

The musty damp air of the swampland with its decomposing odors from the stagnant waters, the frantic boisterousness of the impetuous dogs

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Photo by Maslowski & Goodpaster

MISTER MISCHIEF flashes those "glowing ember" eyes from his second-story perch.

and the eerie shadows created on the foliage by our weaving flashlights, emphasized the coon hunting atmosphere.

Once I imagined I glimpsed the raccoon beside a squirrel nest, but peering harder, I concluded it was only a scar deformity on the trunk of the tree.

Suddenly the coon's eyes blazed brightly and I squeezed the trigger. The excited whining of the dogs was stilled abruptly with the report of the .22 and the ringtail, careening from the lower branches, plummeted to earth.

When the dogs seized and worried the dead boar coon, all my doubts about coon hunting vanished. There was certainly nothing prosaic about the first hour of hunting since this was our third ringtail.

During all my years of hunting game—small and large—I simply had never given coons a second thought. Now I knew what I had missed. Yet this thrilling but neglected experience is available to all sportsmen, rich or poor.

Whether you live near a metrop olis or along some country lane fifteen miles from the nearest town you'll find coons more plentiful tha you've ever suspected.

Multiplying unheeded by natura enemies, and with trapping unprofit able, *Procyon lotor* has reached th point where he has become a menac and conservation problem. His ma rauding nocturnal raids on garbag pails, corn crops or poultry yards ar an indication of his voracious appe tite which is ordinarily appeased from nature's cupboard. By huntin ringtails, you will be doing yoursel as well as other sportsmen and farmers a great conservation favor.

In Pennsylvania, as well as mos other states where he ranges, th Game Commission wisely permits a extended season for coon huntin to cope with their ever-increasin destructive numbers.

Breeding during coldest winte their four to six young are born i April with the family remainin together until the following winte Nocturnal by habit, they are foun wherever a combination of den site and feeding areas exist. The de sites are usually located in hollo trees while the feeding areas, pr marily swamplands and stream bed sometimes includes cornfields an orchards. From these w o o d e swamps, stream beds, cornfields an orchards they forage at night to pu music in coon hunters' ears.

Sometimes you are home by mi night, proudly toting several coon sometimes you sneak home shee ishly around daybreak with nary trophy to show for an all-night vig waiting the dogs' return; but mo often you literally drag yourse home by the light of a new da lugging plump proof of a cha you'll always treasure, despite yo blood-shot eyes stinging in the mor ing sun.

All you need is a flashlight an

one fighting hound, not necessarily with traceable ancestry, willing to tackle anything. Some hunters prefer redbone, black and tan or bluetick hounds, while others swear on a mixture of hound and airedale. It's a matter of opinion. But it's a fact—he must have a fighting heart. If you are without hounds and are unable to borrow some, wrangle an invitation to accompany some dyed-in-the dark hunters and see for yourself.

Most coon hunters are a genial lot and will insist you accompany them as Wes Freeman did the night I was initiated into the coon hunter's clan. Both Joe Whitaker and I scoffed at Wes when he suggested we accompany Hec Lindenmuth and himself. Hec's bluetick coonhound, Bow, had 74 ringtails to his credit and tonight was going after his 75th.

Seventy-four coons so close to home here in densely populated Eastern Pennsylvania was difficult to believe, but when Wes mentioned we wouldn't travel more than five miles by car, Joe and I accepted his invitation. This we would have to see.

It was an ideal summer night. Earlier a thundershower had washed the foliage and dampened the ground but now a full moon beamed down from a cloudless sky. After a short ten minute ride we parked behind a water reservoir. The watershed, ordinarily swampy during the rainy season, but now dry, stretched before us. Its virgin timber was quilted with straggly second growth and laced by prickly vines. The ground was bisected by small gurgling tributaries and studded with holes formed by uprooted trees.

We had scarcely alighted when the dogs vanished into the darkness and began their musical bugling. "I bet it's one of those damm whiskey

THRILL OF THE CHASE comes alive in the tree tops. Coon hunters brave brush, terrain and time to be there when their coonhounds corner the raccoon.

Photo by the Author



noses," Hec guessed as we hurried after the dogs.

My curiosity had the best of me. Turning to Wes, I asked. "Whiskey nose? What's that?"

"Just wait a minute and you'll see," he chuckled. "They don't travel far."

His promise was fulfilled a moment later when the sound of the dog's ow-ow-ow altered. "Come on, they've treed it," he called.

Reaching the excited dogs, I glanced upwards. Focused in Wes's beam on the first limb of a sapling, a blackish-gray, long snooted red-nosed animal glared down. Curiously giving it the once-over, my attention was again diverted by its red nose. Noticing the long bare tail, I concluded Hec had tagged opposums correctly.

Glancing at my watch I discovered it was only fifteen minutes since we left home. Listening for an opening in Hec's chatter so I could comment about the surprisingly fast action, I overheard him remark, "Wish I had John D's millions, Bow. I'd get those cataracts removed."

Watching agile old Hec treading his way through the darkened forest, it was hard to believe his eyesight was bad. Then I saw he didn't wear glasses and I realized he meant the hound.

"That's why his 75th is so important," I said, and Hec nodded.

Further chatter was stilled when the other hound, a black and tan, sounded a mournful bugle and disappeared, followed by Bow, into the darkness. Again we were on a chase. Soon the tenor of the dogs' bass voices changed to a frustrated yapping. They had treed again!

We stumbled over stumps and rocks and ripped our clothes on sticky vines while collecting minor scratches and bruises, but arrived finally at another towering oak that the dogs were attempting to walk up. Circling the tree with the din of the excited dogs deafening us, we speare the foliage with our lights.

Finally Joe spotted the ringta and yelled. Scurrying around, w glimpsed a blur punctured with tw burning embers. He was perched o a high limb.

"Aim for his eyes," Wes coache while handing Joe the rifle. Breal ing into a grin, he added mena ingly, "Remember, first shot climb if no coon falls."

Sighting the gun, Joe's arm gre steadier, and almost instantly th night was shattered by its blast. Th ringtail quivered, lost its grip an began falling, but again grasped th tree securely with its paws, shook i self, and scurried upwards out c sight.

"You hit him, Joe," Hec com forted while we again surrounde the tree with our prying lights. Te minutes passed and another ten be gan but we hadn't relocated th coon.

Finally, reluctantly, his voice pleac ing for a negative answer, Joe asked "Shall I climb and shake . . . " bu when he saw our dead-pan expre sions, he didn't even bother to finish

Minutes later his voice floated fron down high among the foliage. "Kee your lights up here. I can't go muc farther and I'd hate to have hir grab grips on me in the dark."

Wes's amiable answer, "He'll hav lots of grabbing on your two hun dred pounds," was punctuated wit the noise from Joe's shot, and th coon came tumbling down to pra tically jump into the throats of th waiting dogs.

After Hec retrieved the valiant bu defeated ringtail from the churnin commotion, he remarked, "Can't ca this your 75th, Bow."

"No indeed," Joe answered, d scending the tree, with his shor peeking through his ripped trouser "It's my first!"

Again we moved deeper into th swamp, the old bluetick leading th



Photo by the Author

COON HUNTERS find time is no problem to their enjoyment of outdoor sport, providing they don't mind missed sleep. On top of that, their sport benefits all as they help control a serious predator of other game species.

way and the black and tan, flushed by her success, following eagerly. Soon the old hound uttered a debateable wail and was off with the black and tan bouncing after him, bugling accompaniment.

"That's a cold trail, fellows," Hec suggested, knowingly, "Let's rest and listen to some sweet hound music while the dogs work it out."

A sixty year old youngster, he had been hunting places such as this before I was born and knew the terrain like the back of his leathery hand. It was good he did, I thought, since I didn't. Whether I followed the dogs or remained, I was lost. In fact, I had been bewildered since we started. Of course, I could have located myself with the moon in a less densely wooded section and eventually made my way to a road, but the idea of blundering through the marshy watershed wasn't appealing.

Lighting up, we listened to the fading wail of the open hounds. Their silent periods became longer and their bass ow-ow-ow's more muted until finally only the hushed sound of the lonely forest could be discerned.

Ten long bleak minutes crept past and finally Wes, assuming the now silent woodsman was worrying, asked. "Hec, you certainly prize that Bow. How come you've never entered him in a field trial?"

The weather-beaten oldster pondered. Finally he spat out a twig he had been chewing on, and answere. "I knew he'd win. But then where would I be?"

That puzzled me. "Where would you be? Why you'd be strutting around like a pouter pigeon displaying his ribbons and trophies!"

He picked up a blade of grass, toyed with it for a moment, and then replied. "No . . . that's not it. I meant after he won—someone might swipe him or someone might offer

such a high price I'd be tempted to sell. Then, where would I be?"

Motioning with his hands for silence, he turned his head quickly. "Sh—listen!" he commanded. Far in the distance, the rallying cry of a muted bugle sounded. Seconds later and growing louder, the bugle was repeated.

"Where's the black and tan?" Hec questioned, cupping his ear. "That's only old Bow!" A moment later, sighing with relief, he chuckled, "Sure glad the ringtail didn't hole up or tree. We would have been walking all night."

"You can say that again," Wes confirmed. "And I bet it's a big coon. The old ones are too smart to tree until they are forced into it."

"It's an old one, an old she," Hec continued. "The black and tan took a lacing from one. That's why she's silent. She quit! But old Bow won't quit."

Minutes later the frenzied tonguing of the elated dog swept closer. Wes rose, crushed his smoke and slapped Hec on the back. "You figured the coon would head back, you old codger."

Our steps were hastened when the frantic wails of the dog were displaced by an authoritative yapping. Old Bow had treed his 75th definitely. I won't bore you with the details but must tell you Hec never enjoyed anything during his 40 years of hunting as he did dispatching that plump, black colored old she.

You've finally surmised by now as I did, that Wes Freeman was correct in saying coon hunting is tops. Top about it also is the availability of hunting time.

Regular daytime employment prevents most of us from enjoying a jaunt afield except for a few Saturdays and holidays during the small game hunting season. With coon hounds, time presents no problem since you hunt by night. Any evening the weather is decent, you are ready to go and all it costs is some missed sleep. After your first chase you'll agree that you were overlooking something—something that few of us enjoy, but is available to all.

And you're in for a treat when you draw your chair up and help yourself to a serving of roasted or fricasseed raccoon. An epicure's delight it is available everywhere.

As Wes summed it up when the dogs elated ow-ow-ow's announced still another chase, "What other type of hunting do we have where the hunted outnumbers the hunters?"

Hunting Hours Are Based on Eastern Standard Time

In some localities Daylight Saving Time will be extended, this year, beyond the customary September ending date. The Pennsylvania Game Commission emphasizes that, nevertheless, all shooting hours in this state will be based on Eastern Standard Time as required by the Game Law. This of course includes the 9 o'clock opening hour of the small game season October 29th. The time requirement appears on the hunting license and has been broadcast in news releases.

Hunters whose time pieces are set for Daylight Saving Time during an game season will simply have to make the one hour adjustment they would in summer to catch a train or plane that is scheduled on Eastern Standard Time.

The Battle of Long Bow Benders

By Keith Schuyler



All Photos by the Author

BACK in the beginning of World War II, we had a lot of fun dropping 100-pound practice bombs in preparation for the grim business ahead. Nobody got hurt, and light charges in the little blue bombs showed just as plainly how good our score was as the half-ton blobs of gray hate that loaded our bomb bays but a few months later.

It may be a nasty comparison, but the fun to be had in a round of field archery somehow reminds me of the pleasant practice we had bombing marked-out spots on the ground. Throughout Pennsylvania, each weekend brings together archers who are just as serious about pinning down a target as they are about dropping some species of game. The arrow has penetrated deeply into the sporting scene in this state.

And, although field archers for the most part are big-game bowmen, tournament shooting provides a pleasant interlude between hunting seasons. Today, it is a major activity in the Commonwealth. From April through October, from five to twelve archery tournaments are in progress each Sunday, and there is plenty of practice shooting and special contests on the off days. Tournaments may draw from 50 to 150 or more shooters, and most of them are field shooting contests. Past hunting seasons have proven to bowers that they must continually practice to score, and the weekly tournaments offer a fine means of keeping in trim.

As one who has held a varying degree of interest in bow shooting since 1939, I have been especially interested in the phenomenal growth in participation of the past few years. Not only has interest compounded, but the improvement in shooting has also been something to behold.

For instance, as recently as 1954, the greatest number of participants in field tournaments were usually entered in the Archer Class. This year, the big competition is in the next highest class, Bowman, and there is a liberal sprinkling of ex-



ONE ARROW is shot from each of four positions at every target in field archer course. Here Ed Fulkersin, Berwick, shoots first at target 12.

pert A's and B's scattered throughout the state. More and more archers step up to the registration desk and proudly announce their classification whereas only last year many tournaments were loaded with bowmen as yet unclassified.

Bows are improving, and scores are improving correspondingly. More expensive arrows of aluminum and glass, almost a novelty 12 months ago, are becoming more common every day. The heat is on! And, the archer who takes home a trophy or a medal today must earn it in every sense of the word.

One of the nicest aspects of field tournaments is the fact that any archer has a chance to compete with others of comparable ability. If he hits a good day and comes up with a high score, it may move him into a bracket where he will in the future be competing against others in his class. No archer has a chance to remain in a class where he may con tinue to lead the pack unless hi ability improves as fast as he move up the ladder. And, the ladies hav their classes, too.

As an example, a shooter in th Archer Class might take first plac once with a 165, but he will neve shoot in that class again. That is never unless his shooting falls of after a year and he is unable to ap proach that score again. For, even 160 places him in the Bowman Class As a boxer meets competition in hi own class, so does the archer.

To be specific, below are listed the classes in field shooting for both men and women, based upon th score made in 112 arrows shot at 2 targets.

MEN

Novice—any score up to and includ ing 89; Archer—90-159; Bowman 160-229; Expert Bowman B—230 299; Expert Bowman A—300 an over.

WOMEN

Novice—any score up to and including 59; Archer—60-129; Bowman—130-189; Expert Bowman—190 and over.

Scores are posted with the Pennsylvania State Archery Association after each certified tournament. Anyone entering a tournament without a classification must enter unclassified and attempt to break into one of the classes by virtue of his score.

Possibly the best way to get a complete picture of an archery field tournament is by going to one. This we have endeavored to do for you with photos taken at the opening shoot of the Northeast Pennsylvania Archery Conference tournament held on April 17th. Berwick Archery Club was host to the region on its new 28-target tournament course.

It rained all morning prior to the shoot, and attendance was held down to 67 shooters from Berwick, Lewisburg, Shamokin, Selinsgrove, Shenandoah, Williamsport, Sunbury and Weatherly. Each archer had to drive through rain to get to the tournament grounds. At the starting signal, however, the overcast provided no more than a threat, and a fine day was had by all.

An indication of stiffening competition for the balance of the season was shown in the fact that 11 unclassified shooters moved into a class, and three made Bowman. This was an indication that there had been plenty of practice prior to the shoot.

Further, two shooters jumped from Archer to Expert B; nine Archers jumped to Bowman; one Bowman went to Expert B. Of the 67 shooters, 23 either gained a classification or moved up one or two rungs on the competitive ladder.

FULKERSIN COLLECTS a 16 for the target—two 5's and two 3's. Winner of 2nd Bowman here, Ed is now one of top shooters in state with X-A rating.



Berwick Archery Club, in addition to producing some of the state's finest marksmen, is party to one of the most exemplary situations in outdoor sports. The club is actually a guest of the North Berwick Hunting and Fishing Club although one of the requisites of membership in the archery group is membership in the hunting and fishing organization. This happy marriage came about when the archers began to seek a site for a field course after a year of target shooting on an urban course with night lights. The hunters and fishermen invited the bowman to their 87-acre tract with no strings attached. It was the archers themselves who insisted upon their members joining the other organization. By the same token, the hunting and fishing group must be members of the archery club to enjoy their facilities.

A trout pond provides on over-water shot for the final target on the course which is unusually well laid out. Since the tract has large open areas as well as woodland in addition to the usual ups and downs, all types of cover and every possible angle of shooting can be duplicated. And, most of them are.

One of the projects during the summer for the Berwick boys will be the instruction of Boy Scouts at Camp Lavigne in Columbia County. A number of the club members have signed as instructors and must travel nearly 50 miles for that purpose. Another stated project is to win the Northeast Conference championship.

As in this example, bow strings across the state are pulling together sportsmen from wide areas into a fellowship of friendly competition. Among them are the 14,775 who last year bought an archery permit for the special deer season. But, there are many new faces, new bows and arrows, new skills.

For, "So long as the new moon returns in heaven, a bent, beautiful bow, so long will the fascination of Archery keep hold of the hearts of men." (Thompson)

WELCOME TREAT for bowmen is provided at half-way mark by wives of club members. Note trophies for this shoot on table in foreground.



One Dog too Many



By Horace Lytle

MY great good friend, the late Thruston Houk, always said: "Never kill a bird until you first are sure the dogs have settled down and are ready to perform as they should. Charlie Stoddard taught that to me, and he learned it from his uncle Fowler."



Which is the best kind of advice—as any such coming from Fowler Stoddard *would* be. He still rates as one of the foremost pillars of bird-dogdom in America. Just for the record be it said he was chosen as Referee for the famous endurance contest of years ago between Grousedale and Lit, won by the latter.

What's more, it is an idea the writer himself has tried to carry on by continuous preaching, not only in books—but for the better part of thirty years as Gun Dog Editor of leading publications with more readers and influence than any mere sporting book may ever know.

But flesh is weak. We are today in too much of a hurry about everything. Time has become more essential than it should. Time for hunting has been shortened. We go afield on a too much "now or never" basis. A great part of all this we cannot help. We are but victims of the age in which we live. And yet, by yielding to the pressure, we may but be letting ourselves in for deep regrets. As I myself—in spite of all previous preaching—am in that very boat right now, I'm going to tell the story without pulling any punches.

What happened traces back, I

think, to January of 1952 in Mississippi. I took a pair of brother-sister Setters, Chip and Linda. He had suffered a terrible accident that crippled him when young, but had recovered rather better than predicted, and I had trained him myself. Perhaps due to a closeness between us that developed during the long days of nursing him back to a semblance of health, he trained-on without many problems—and, s t r a n g e l y enough, never showed anything but a seemingly natural inclination to be absolutely steady to wing and shot. Was birdy, too, and gifted with a superlative nose. Thus, in the North, he had always managed to hold his own pretty well against his more rugged sister. She had been a problem to get finished at all—thinking she surely might catch those birds with any breaks in her favor. When at-long-last, she finally did yield to restraint, however, she became about the most steady to shot of any I've owned. Few dogs can long stand the strain when birds are dropping ahead of them—but she *did,* almost beyond belief.

I was proud of the way both of them hunted in Mississippi. But in that great vastness, where we always hunted from horseback, Linda was just too much for her brother. She never let him quite reach any place she hadn't already been. The result was that she was finding all of the birds—and I mean *ALL.* Thinking back now, I can recall but one find that Chip had all on his own—and that was a single from one of her covies. Some sort of blindness must have kept me from realizing this couldn't go on. But I never sensed what was coming until it happened.

One day Linda had a find at the head of a draw bordering woods. Chip swung in and backed her, as he always had. I was riding a horse that had to be tied, though the best hunting horses stay "ground hitched." Anyhow, just as I was approaching with gun ready, Chip suddenly jumped in and knocked those birds higher than Katy's kite! Livid, I laid leather on him pretty thick as soon as I could get him in hand. Through it all, Linda never budged. And not once during that hunt did she ever break shot. Chip did. He never again flushed her birds, but he went-with-them at the shot every time. As she, strangely enough, did not seem to be affected by his bad manners, I let it go at that—for the time being. For one thing, his breaking resulted in the recovery of several crippled birds that might otherwise have been lost; and for another thing—well, I was there for an all-too-brief bit of hunting, and let correction wait. As do too many of us all!

The matter was attended to, or so I thought, after we had gotten home. But birds were far too few, so not *enough* was accomplished—as was later learned. Long months of late Spring and Summer followed until another Autumn dawned. Another hunting season was in the offing; and important field trials, too. The dogs would need much tuning up and I resolved to get the job of readying done. But finding suitable places these days to run high-powered field trial dogs is fraught with difficulties to rival the Book of Job. More so in the case of wide quail dogs, than in the grouse woods.

My old, long-time favorite spot (where it was possible to handle from horseback) had been demolished for the construction of two 18-hole golf courses. Through the help of a friend, I finally found a rather ideal location and one day, in but a short work-out, raised six ringnecks and two covies of quail! This looked like *the business.* But that day was destined to prove but as the sample apples at the top of the barrel. Never again did we find a single quail—at least not when I saw the dogs, and the pheasants made themselves mighty



scarce. While this territory was *big*, and much of it open, in one vast section of it the cover was impossibly heavy so that I would lose all track of the dogs. As this wasn't good, I began working them separately. There is no surer way to ruin a finished dog than to lose him on point too often. One day, while working Chip alone, I lost him for an hour and a half. That ended that. Finally, I found another place that was good though not perefct. Few places are. But the new training ground held three or more covies of quail and I was getting very nice results right up to hunting season.

The year of 1912 was the last open season on quail in Ohio. Then they were classified as "song birds" until a couple of years ago. Now they again are called game birds—but, at least as yet, with no open season. A few years ago certain sections of Ohio had rather good Hungarian partridge shooting. That now is a thing of the past. Ringnecks offered excellent sport for a number of years. Today they are scarcer than hens' teeth. With the hunting season on, and one cock pheasant in the larder, my wife conceived the idea of a game dinner. She used to think of me as a good provider—and still seems to! So I arranged a short trip for a quail hunt.

"Come on over," Gus had written. "We have a good many birds this year and would love to have you. Doc wants to go with us. He's just bought a new dog and is anxious to talk with you about him. He needs some advice and can hardly wait to see your dogs work and watch you handle them."

I answered that letter by phone and went right on over. One of the best ways to help a man is to *show* him and I proudly looked forward to being helpful to Doc. I guess there's not one of us but loves to show off his dogs, especially if they're good—and mine were. Why, their daddy was the 1946 National Champion! So I made that trip as eagerly as a boy.

We drove out the next day into territory that made my mouth water. It was nice country for big running dogs and you just knew it was birdy. We parked the car at the house and Gus went in to make our presence known. The Mister wasn't home; but the Missus wished us luck. Soon as we let the dogs out, Linda sailed away straight up the lane. Chip paused enroute to investigate some hogs in the barn-lot. Far ahead, I thought I saw Linda whip into point beyond an open gate. Gus confirmed this as correct. Good g-r-a-c-i-o-u-s—this was doing business in a hurry! As we three gunners stepped it up, Chip passed us to overtake his sister. Suddenly my heart skipped a beat—

"Gus," I exclaimed, "he didn't stop!"

"Yes he did," came the answer—"he's backing her."

But I rushed ahead. Getting close enough, I saw Linda stacked up tight—alone. Then I spotted Chip, running wildly in a great circle—but shortening it with every stride—and manifestly madly intent on flushing those birds.

"WHOA, you!" I called to him—but he had the bit of defiance in his teeth and was past listening. A

tremendous covey was soon in the air while I stood helpless. I was offered good shots—but refrained, of course. Finally getting hold of Chip, after quite an effort, I gave him a good thrashing. I just talked to Linda, and gave her a yank or two by the collar, for she too, had broken at the flush. But her provocation had been so great that she scarcely deserved even this admonishment.

I know what I should have done—but didn't. After all, the wife very much wanted those birds. We went on toward where singles had started dropping off. Chip chanced to have the first find. But when Linda swung in, I saw she wasn't going to back him. Laying down my gun, I put a check cord on her and sent Gus in for the shot. He killed the bird but Chip was right under it when it fell. I began to get dizzy with anger.

Then Linda found one and I put a check cord on Chip. And now Linda broke when Doc went in for the shot. Chip found the next bird by a fence and stood nicely on it. In spite of my "WHOAS" when Linda came up, she passed right by Chip, between him and his bird, and went on. I went to the point and managed to down the bird. Chip's breaking on this one wasn't quite so bad—the fence held him! This wasn't hunting. This was but chaos. What was left of my mind was so dizzy I could scarcely hold a gun straight; and I was blind with frustration and anger.

We had entered a nice, open woods. Far to the right, I spied Linda on point. Doc went to her but he happened to miss and Linda was still going as far as we could see her. Crossing a dirt road, we came upon the farmer on whose land we were hunting. He was cutting wood and Gus stopped to visit with him. Doc and Chip were some where behind us. In a minute or two Linda showed up and encountered a rabbit before she quite reached us. I'll never forget how our host looked, but without saying a word, as he watched a bitch no bigger than a small Brittany carry that rabbit away with a speed no Beagle could match, all the while yapping like a rabbit-running setter pup. Well, while Gus visited, I got hold of her and, after another good lacing, put a lead on her. This I would jerk from time to time, while commanding "Whoa."

Back at the road, we came upon Doc and Chip again. Doc had put a lead on Chip and was waiting for us. I was by now more than ready to quit but we were too far from the car. In the next woods Linda found another good covey—and on this one Chip backed her! But when I put the birds up—well, the dogs may not have been exactly off-side, but they both sure beat the guns. They broke so fast that even the birds we knocked down fell behind them! And so it went. Nothing but chaos. The pity of it was that not in thirty years have I seen so many birds raised in the same acreage. The air was full of them, and the ground full of dogs. It wasn't so much the number of coveys we'd found that made them seem so plentiful, as the fact that we kept raising singles over and over again. Actually, the count showed but five coveys as we headed back for the car on my insistance to quit. Enroute, though, we kept scoring. Chip made an excellent find and handled it beautifully. His manners were aided by a hog tight fence that kept him from breaking, as the birds were just beyond it and he was pointing jam up against it. Linda found a single from this sixth covey and she, too, did a superb job. Her manners were controlled by a thorn bush into which she was pointing. Gus killed her bird but Linda never budged. She couldn't.

We saw the seventh covey soon after we had started back to town. They ran across the road ahead of us. My friends wanted to stop, but I

wouldn't. I'd had much more than enough for one day. The wife's order for birds was filled and I just couldn't stand any more canine anarchy. I thought some of heading right on back for Ohio. But, you know—it's hard to turn your back and leave when you know you're going to be laughed at. So I insisted the drinks were on me. Others joined us and my friends were politeness personified. But I can never forget the curious, puzzled expression on Doc's face—he who had been so anxious to see my dogs work and learn things about handling his own. Finally he did ask a question.

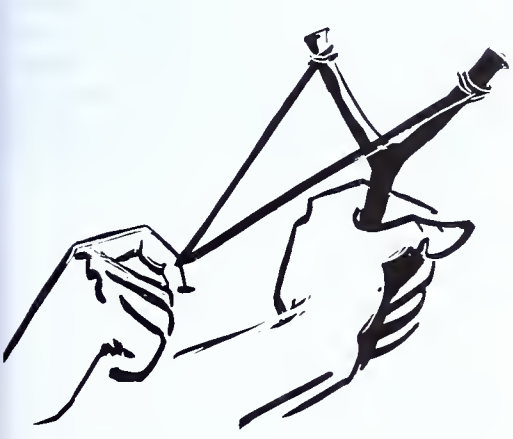
"After the way they acted today," he said, "do you think you can get them under control again at all—and *how'll* you do it?"

I sipped at my drink before attempting to answer. Then I said: "There are several things I can and will do, Doc, and one of them I've never before tried—nor ever before had to. I've seen some advertising of good looking sling-shots the past few years. When we were kids we made our own. But these I've seen advertised are factory-made and I'm going to get one. Then I'm going to practice with it until I can hit something running as big as a dog. That ought to make 'em listen—and be better than a check cord. When dogs get to acting like these did today, merely check-cording isn't enough—for they know you can't reach them when they're not wearing it. One of those sling shots will teach them that I *can*."

"Sounds like it might be just the thing, at that," Gus said.

"Of course, fellows," I went on, "I made an awful mistake today myself. I should have known better—but the fact is that I was more surprised than either of you could have been. I honestly thought my first punishment of Chip would settle him down—and I wasn't looking for Linda to go haywire at all. Even so, I should have done either of two things when Chip knocked that first covey—and the very way he did it should have warned me: I should at once, after punishing him, have put him on lead and taken him back to the car; or else I should have taken my gun back to the car and just check-corded Chip all morning. That would have given him a lot to think about. Linda, alone, probably would not have given us any trouble. We were hunting with one dog too many!

Gus insisted we go out again in the afternoon with Doc's dogs, but I was through. I had a big job to do. These dogs were to run in a field trial just one week later. A $1,000





Trophy was at stake. I had two legs on it—and a third would win it outright. Linda had won it in 1951, with Chip placing second to her. I very much wanted to win it with one or the other this time and there was but a matter of days left for check-cording and sling-shooting. So it was up to me to head home and get at it. It wasn't easy to leave—but I did.

On the drive home, it started to snow. Not just a little snow but a big one which laid on the ground a whole week. There wasn't a chance to work dogs so neither Chip nor Linda stepped a foot out of the kennel for seven days. Finally I loaded them up and started for the field trial. Well, they wouldn't be braced together for that and since I would be handling them from horseback, maybe they'd not feel so safe in trying to get away with something. And maybe they might have repented while kenneled-up out of the snow.

HORACE LYTLE, "Mister Field Trial" to a host of sportsmen all over the nation, proudly poses his great setter "Linda".



Anyhow, that's the only gamble there was to go on.

It was a hot stake and a good sized entry, including two field trial champions. Linda, the judges thought, ran the class race of the entire event but she failed to score a find. When Chip's turn came, he surprised me thrillingly. His ground pattern was superb and his running was mighty close to Linda's. I had just started down a deep incline, thinking Chip was ahead of me, when the call of "Point!" came from behind to the right. I kicked my horse hard to get there quick. Chip was on point but I sensed indecision. Thoughts went racing through my mind. He didn't seem just satisfied so I wasn't. Could it be a rabbit?

I started directly to him, then changed direction to go around and flush from in front. This put a bush between us. And just as that bush hid me for an instant, Chip's indecision left him and he made up his mind. Very deliberately he jumped in with malice aforethought and flushed his quail, then chased viciously. Right then and there he knocked me out of a good sized cash purse plus outright ownership of one of the finest trophies in all field trials.

Of course, now he'll not know again for a long day what it's like to be free of a check cord. But that's not the point. The point is that those quail my wife wanted turned out to be the most expensive that perhaps anyone ever killed. That always-to-be-lamented last hunt also turned out indeed to be a case of "one dog too many."



Photos Courtesy Indiana Evening Gazette

Pennsylvania's Elder Sportsman

By Bill Hastings
Staff Writer, Indiana Evening Gazette

From the pulpit of a church he served for 55 consecutive years to the broad expanses of a "hunter's haven" in Africa, Blairsville's Dr. Robert E. McClure has basked in the limelight of a vocation and an avocation.

The 94-year-old retired minister has established mythical records in both the sanctuary of his church and the hither and yon gamelands of Africa, Canada and Pennsylvania.

His record for "serving one congregation for the longest period of time in the history of the United Presbyterian Church" was severed at 55 years in 1947.

As a hunter, he is credited with many mythical titles, including:

(1) He is acclaimed to be the oldest, active small and big game hunter in Pennsylvania; and

(2) He could easily be rated the most successful 70-year-old hunter to invade the wild gamelands of Africa, having felled more than a dozen head of big game in a 1931 hunting expedition to that continent.

If these milestones of longevity as a minister and hunter fail to unrest you, consider the fact Dr. McClure celebrated a 94th birthday last Apr. 2 and then drove 80 miles the fol-

lowing day to Sligo, Pa., where he baptized his great grandchild and delivered a sermon from the pulpit of his grandson's church.

More recently, he boarded a plane at Pittsburgh for a flight to Tennessee where he performed the marriage ceremony of a granddaughter.

And if further proof need be attested to his title as the oldest, active hunter in Pennsylvania, then remember:

He felled his last deer in Canada six years ago at the age of 87 (it was his 35th deer kill); he tramped through area fields six days last fall during the small game season, firing six shots and bringing home three rabbits and two ringnecks (he was 93 at the time); he also went on a two-day deer trip last fall . . . and the spry Dr. McClure is looking forward to the late autumn this year when he promises to spend even more time in neighboring fields "if all goes well."

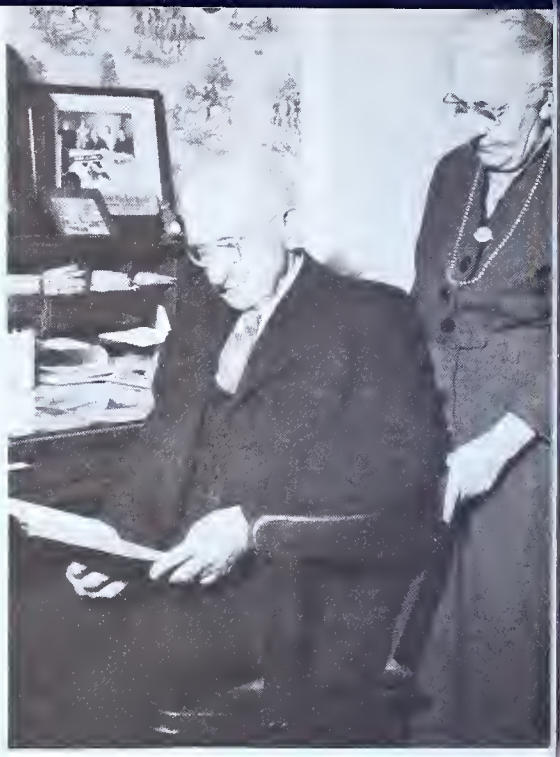
To say that his appearance today belies his 94 years is a gross understatement. Only when he fumbles with a hearing aid that he uses—but does not depend on—can you detect any physical impairment.

Although he was officially retired in November, 1947—at the age of 86—it is commonly known here that Dr. McClure "doesn't pass up any opportunities to preach in the local church or go off on a hunting sojourn into district fields."

It was during his early years on the family farm near West Middletown, Washington County, Pa., that Dr. McClure developed an innate desire—a desire that has developed into an "incurable disease"—to hunt.

Ordained as a minister in 1892, he came to Blairsville for his first—and what proved his last—United Presbyterian charge.

Even his ministerial duties during those first years as a pastor didn't cure him of that "disease." The ornate trophy room in his home, walled



MINISTER-HUNTER Dr. Robert E. McClure studies Bible with Mrs. McClure. Love of hunting developed at an early age when, as a boy on family farm in Washington County, Dr. McClure first found out that sport afield rapidly becomes an "incurable disease."

by the racks of his African, Canadian and American kills, is testimony to that.

Chief topic in his hunting lore is a 1931 trip to Africa for a five-month visit with his son, Dr. William Donald McClure, a missionary in Ethiopia. The elder Dr. McClure was 70 years of age at the time.

In about 12 days of hunting, the 70-year-old doctor bagged a tiang, waterbuck, roan antelope, lady gray, gazelle, white-eared cobb, two lions (male and female), water buffalo, hippopotamus, leopard, and part (yes part) of an elephant.

Last fall, Dr. McClure, approaching a 94th birthday, again refused to pass up a hunting season and went to Huntingdon County for a two-day deer trip. Companion hunters insisted that Dr. McClure kept pace with persons a half-century younger.

"We saw 37 deer," he booms, "but I didn't fire a shot. Too many ladies," he chuckled.

A Sportsman's Guide To . . .

Berks County

Fifty-fourth In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Berks County, named by the Penns after Berkshire, England, contains 552,704 acres of which 164,461 acres (29.8%) are forested. Publicly owned land totals 24,171 acres, including 9,109 acres of State Game Lands.

Topography

The Schuylkill River flows through the county from the northwest to southeast, providing a natural gateway into the heart of the county from the metropolitan area in the southeastern corner of the State and also from the anthracite region farther north. From the center of the county, the natural site for the city of Reading, the line of communication extends westward through the Lebanon Valley to the crossroads of the State at Harrisburg. Eastward the broad Lehigh Valley sweeps into northern New Jersey. The county's topography varies from the Appalachian valleys and ridges in the northern part, the Great Valley through the central portion, the Reading Hills and South Mountain, to the Piedmont lowlands in the southern part.

Transportation

Railroad transportation is furnished by the Reading and the Pennsylvania lines. The William Penn (U. S. 22), the Benjamin Franklin (U. S. 422) and other through routes traverse the county, which has 883 miles of improved State highways.

District Game Protectors

District Game Protector S. C. McFarland, Centerport (Phone: Leesport 6-3273) is assigned to the following townships by the Pennsylvania Game Commission: Bethel, Tulpehocken, Upper Tulpehocken, Bern, Upper Bern, Tilden, Center, Jefferson, Penn, Marion, Heidelburg and North, South, and Lower Heidelburg.

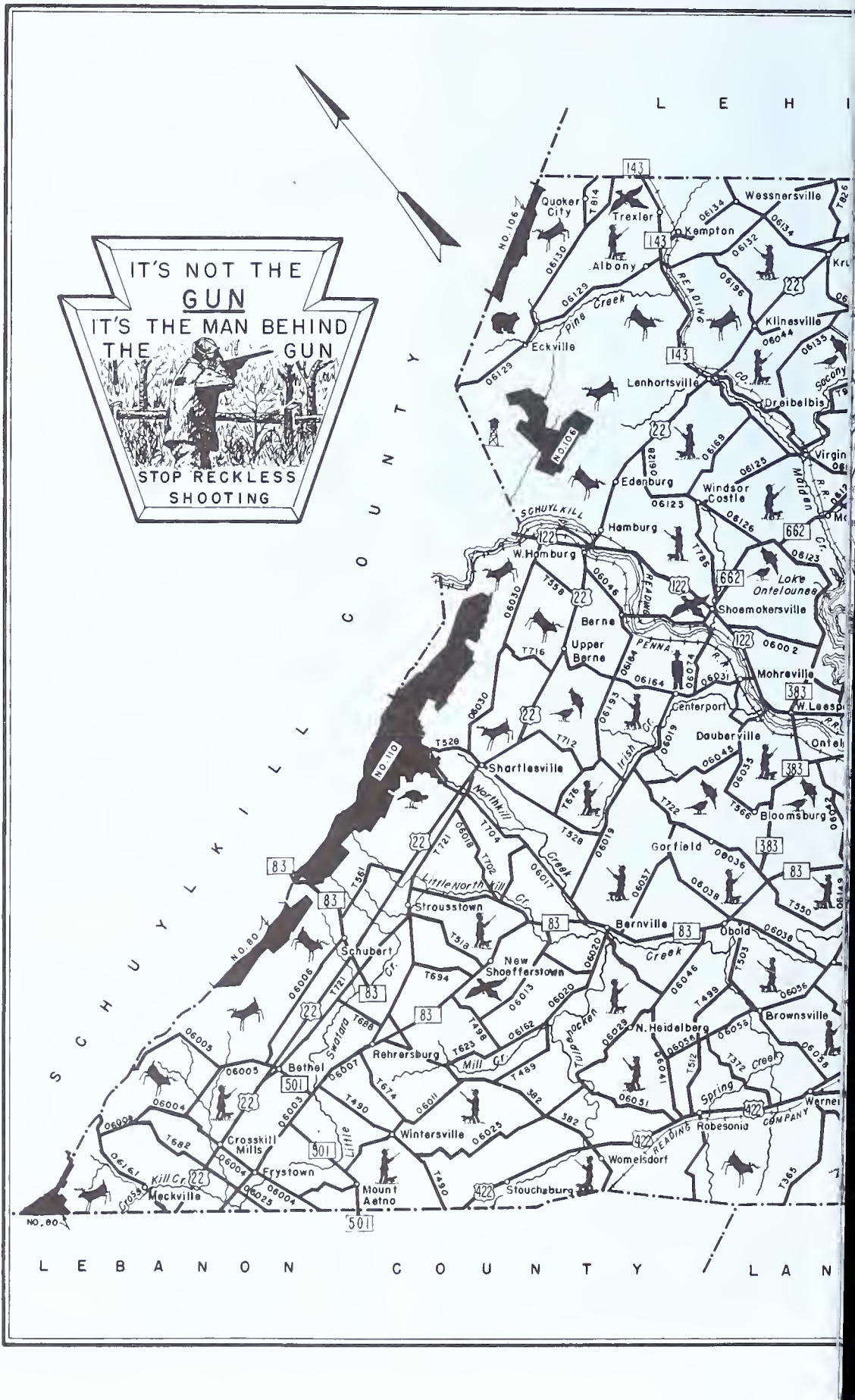
District Game Protector H. H. Rickert, R. D. #2, Kutztown (Phone: 2630) is assigned to the following townships: Albany, Windsor, Greenwich, Perry, Richmond, Ontelaunee, Maiden Creek, Maxatawny, Long Swamp, Rockland, Pike, District, Hereford, Washington and Ruscomb Manor.

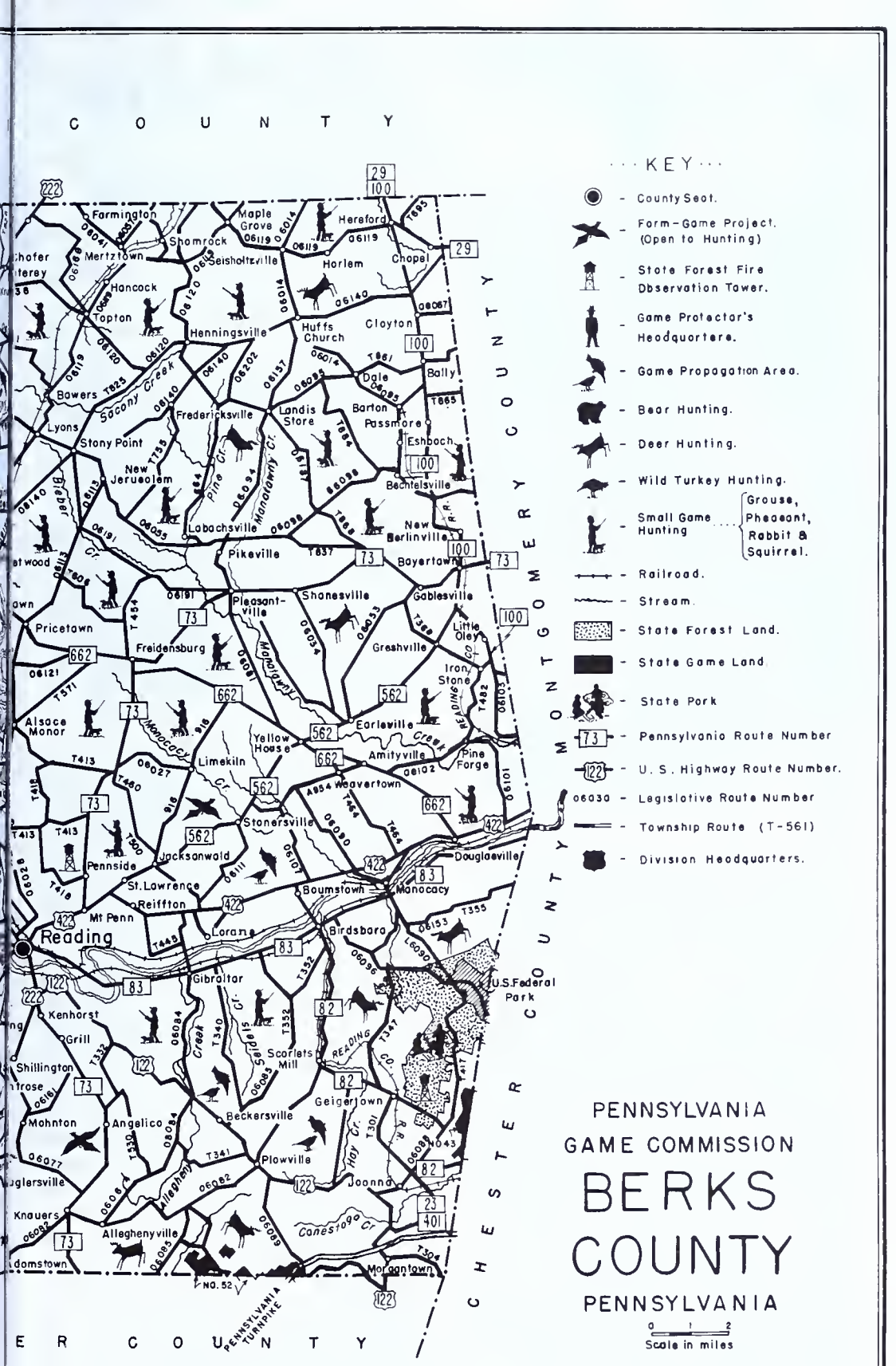
District Game Protector J. A. Leiendecker, 1507 Moss Street, Reading (Phone: 2-1385) is assigned to the following townships: Muhlenburg, Alsace, Lower Alsace, Oley, Earl, Colebrookdale, Douglass, Amity, Exeter, Spring, Cumru, Brecknock, Caernaruon, Union and Robeson.

The Game Commission's Southeast Division headquarters, Morris D. Stewart, Supervisor, is located at 1009 N. Eighth Street, Reading (Phone: 4-2661).

Fish Warden

Fish Warden Norman W. Sickles,


IT'S NOT THE
GUN
IT'S THE MAN BEHIND
THE GUN
STOP RECKLESS
SHOOTING
L E H I
S C H U Y L K I L L C O U N T Y
L E B A N O N C O U N T Y L A N
Quoker City
Trexler
Albony
Kempton
Wessnersville
Kutztown
Kinnesville
Eckville
Lenhortsville
Dreibelbis
Virginville
Edenburg
Windsor Castle
Hamburg
W. Hamburg
Shoemakersville
Lake Ontelaunee
Berne
Upper Berne
Mohrsville
Centerport
Dauberville
Shartlesville
Bloomsburg
Gorfield
Bernville
Obold
Strousstown
Schubert
New Shoefferstown
Rehrersburg
Bethel
Brownsville
N. Heidelberg
Wintersville
Crosskill Mills
Erystown
Meckville
Mount Aetna
Womelsdorf
Robesonia
Stouchsburg
Werner
Reading Company
Pine Creek
Schuylkill
Northkill Creek
Little North Kill Cr.
Irish Cr.
Tulpehocken Creek
Mill Cr.
Spring Creek
Swatara
Little Cross Kill Cr.
Penna. R.R.
Reading Co.
Lehigh Valley R.R.
Socony
143
122
662
22
83
383
501
422
NO. 105
NO. 110
NO. 80


C O U N T Y
CHESTER COUNTY
MONTGOMERY COUNTY
E R C O U N T Y
KEY
County Seat.
Farm-Game Project. (Open to Hunting)
State Forest Fire Observation Tower.
Game Protector's Headquarters.
Game Propagation Area.
Bear Hunting.
Deer Hunting.
Wild Turkey Hunting.
Small Game Hunting
Grouse, Pheasant, Rabbit & Squirrel.
Railroad.
Stream.
State Forest Land.
State Game Land.
State Park
Pennsylvania Route Number
U. S. Highway Route Number.
Legislative Route Number
Township Route (T-561)
Division Headquarters.
Reading
Farmington
Shomrock
Maple Grove
Hereford
Mertztown
Seisholtzville
Harlem
Chapel
Hancock
Topton
Henningsville
Huffs Church
Cloyton
Bally
Bowers
Frederickssville
Landis Store
Barton
Passmore
Eshbach
Lyons
Stony Point
New Jerusalem
Bechtelsville
Labachsville
New Berlinville
Pikeville
Boyertown
Gablesville
Pricetown
Pleasantville
Shanesville
Little Oley
Freidensburg
Greshville
Iron Stone
Alsace Manor
Earlesville
Yellow House
Amityville
Pine Forge
Limekiln
Weavertown
Stonersville
Jacksanwald
Douglassville
Pennside
St. Lawrence
Reiffton
Mt Penn
Boumstown
Manoacacy
Birdsboro
Lorane
Gibraltor
U.S. Federal Park
Kenhorst
Grill
Shillington
Scorlets Mill
Geigertown
Mohnton
Angelico
Beckersville
Plowville
Joanna
Knauers
Allegheny
Allegheny ville
Morgantown
Pennsylvania Turnpike
PENNSYLVANIA
GAME COMMISSION
BERKS
COUNTY
PENNSYLVANIA
0 1 2
Scale in miles
L.A.M.

Bernville (Phone: 4R11) is assigned to Berks County by the Pennsylvania Fish Commission.

Agriculture

Agriculture is an important industry in Berks County, the largest and finest farms being in the southern half of the county. Berks ranks first among all Pennsylvania counties in the value of oats, second in apples, hay and rye, third in swine and mules, and fourth in pears, peaches, corn, wheat and number of farms.

History

Berks County has had a colorful and romantic history. To the county came Quakers, French Huguenots, and Palatinates, German Amish, Mennonites and Dunkards. The colorful influences of these early settlers who arrived about 1700 can still be found in all sections of the county. Earliest settlers, however, were Swedes from the banks of the Delaware. Still standing near Douglassville is the Mounce Jones house, also known as Old Swedes House, built in 1716.

Berks county was established in 1752 from parts of Philadelphia, Lancaster and Chester counties. It was the ancestral home of the Lincoln family and the birthplace of Daniel Boone. Conrad Weiser, a great Indian interpreter and peacemaker came to the area as early as 1729. But for his influences border warfare might have been still more bitter and bloody in this area. It suffered the usual Indian border troubles until after the Revolution. When the British occupied Philadelphia, Reading was frequented by officers and became a fashionable rendezvous.

Recreation—Fishing

Fishing waters (name of stream of lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Back Creek, Joanna, Rt. 382, 3 mi.; Furnace Creek, Robesonia, Rt. 422, 4 mi.; Hay Creek, Birdsboro, Rt. 83, 7 mi.; Manatawney Creek, Oley, Rt. 73, 11 mi.; Mill Creek, trib. Little Swatara, Bethel, Rt. 22, 4 mi.; Mill Creek, trib. Schuylkill River, Hamburg, Rt. 22, 4 mi.; Moslem Creek, Moslem Springs, Rt. 222, 2 mi.; Northkill Creek, Shartlesville, Rt. 22, 4 mi.; Perkiomen Creek, N. W. Branch, Boyertown, Rt. 100, 4 mi.; Pine Creek, trib. Bieber Creek, Oley, Rt. 73, 4 mi.; Pine Creek, trib. Maiden Creek, Lenhartsville, Rt. 22, 4 mi.; Sacony Creek, Kutztown, Rt. 222, 4 mi.; Spring Creek, Wernersville, Rt. 422, 3 mi.; and Swamp Creek, Morgantown, Rt. 42, 3 mi.

BLACK BASS: Hopewell Lake, Birdsboro, Rt. 83, 62 A.; Maiden Creek, Lenhartsville, Rt. 22, 20 A.; Ontelaunee Lake, Shoemakerville, Rt. 122, 1083 A.; Little Swatara Creek, Bethel, Rt. 22, 6 mi.; and Tulpehocken Creek, Robesonia, Rt. 422, 29 mi.

Recreation—Hunting

Berks County is primarily a farm game hunting county, with some deer and wild turkey hunting found in the northern Blue Mountains. State Game Lands, open to public hunting, are found as follows: Number 110 (in part) covering 5,362 acres near Shartlesville; Number 106 (in part) covering 2,260 acres near Eckville; Number 182 covering 270 acres near Kutztown; Number 52 (in part) covering 324 acres near Plowville; and Number 43 (in part) covering 217 acres near Joanna; Number 80 (in part) covering 676 acres near Meckville. Five Cooperative Farm Game Projects, also open to public hunting, are found as follows: Number 16, totalling 7,389 acres near Shoemakersville; Number 17 covering 16,468 acres near Kutztown; Number 106 totalling 4,299 acres near Bernville; Number 129 covering 2,494 acres near Beckersville; and Number 181 covering 1,534 acres near Jacksonwald.

Outdoor Reveries



Frost At Dawn

By John H. Day

IT TAKES just one nip of frost to set the wild folk of the countryside a'dither in frantic haste to get all hatches battened down before the icy grip of winter locks up the land. That first morning when the chill white coverlet shrouds the bottomlands serves as a sort of warning signal. Even the lowly weeds in the garden rows know that time is running out. They rush now into flower and seed, putting all effort into this reproductive channel. No time now to be fooling around with excess leaves and branches.

One recent morning the first frost laid low the peppers and nasturtiums in my garden. Later that day I noticed many of the "Uncle Hairy" caterpillars hustling across the concrete roadway before my car. These little brown fellows had gotten the word and they were wasting no time in hunting out a snug place to curl up for the long snooze.

Would-be prognosticators like to predict what the winter will bring by the light and dark sections in the furry coats of these common creatures. I paid particular attention as I drove along and am happy to report that we will have an early winter, a late winter, a short winter and no winter at all this year. At least that's what the first four caterpillars I checked on revealed.

Tamias the chipmunk has also gotten the word. Never was the little steward so busy as he is these final days of his harvest season. Now the wild cherry pits are dropping and the wayside plants hang heavy with the seeds he stores in his underground granary. I see him all along the country lanes, scampering for cover, his tail jauntily straight up.

Some of the water birds have started moving south, but the big flights are yet to pass over. I heard some duck conversation at the head of a big reservoir and, after changing to woods clothes, made a long and careful stalk to see what the shallows would reveal. By crawling on hands and knees beneath a wild crabapple thatch, and through a bumper crop of fallen dead-ripe crabapples, I came to an open edging perhaps a hundred feet from the gabblers.

Tipping for forage in the shallows were 28 mallards, the males safely through the moult and again gorgeous in their green head pieces. There was a lone female pintail in the crowd. One white-billed coot paddled about, keeping company with a quartet of small grebes. Another foursome of green-winged teal completed the web-foot entourage.

Running about over the flats was a migratory group of perhaps a dozen killdeer. As I studied the birds through the glasses, I discovered the local turtle population out sunning on the far bank and on a large plank at the water's edge. The breeze had whipped up a tiny surf but the ducks didn't seem to mind. Finally I got to my feet and in a flash the whole contingent was up and away to the far end of the reservoir.

October's bright blue weather brings out all the air-minded wildlings of the wayside trails. Especially when there's a tiny breeze to give the tail-wind push to eager amateur balloonists bent on careening from where they are to some place else. There's really no trick to flying if you know how. You just run up the nearest fence post, elevate your spinnerets and shoot a few yards of lighter-than-air silk into the sparkling sunlight. When you get enough silk out there to pull you off your feet, you let go of the fence post and soar grandly aloft.



That's the way the tiny ballooning spiders have been doing it since before the memory of man. These are the babies, the spiderlings, who have left the crowded egg sac and are now launching out for themselves. Although a wingless creature, the spiderling can float its threads on the breezes and sail for long distances, often reaching tremendous heights.

The October air is filled with the drifting threads of spider silk on those sparkling days when the spiders put on their air show. These silken streamers are known in prose and poetry as gossamer. The riggings of ships two hundred miles from the nearest land has been showered with tiny aeronauts cruising the air lanes.

Sometimes on a clear afternoon, if viewed from the right spot, the ground appears covered with a shining veil of gossamer. A fairy net, invisible at midday, and which the position of the sun now reveals, rests upon the stubble and upon the spears of grass, covering acres in extent. This carpet of glistening silk is the work of innumerable spiders. Devout folk in some areas know this gossamer veil as "Our Lady's threads."

On a recent trip we drove through three days of gorgeous, breezy October weather. All along the way these glistening gossamer threads were evident, drifting through the air before the car, or streaming from posts and telephone poles beside the roadway. Even in the centers of large cities the silvery glint of an occasional "balloon" could be seen going by.

An October perfume scented the air as I invaded a favorite thicket. It was a sweetish, sort of sickening odor, and I knew that the witch hazel, the final bloomer of the year, had spread its four strap-like yellow petals through the underwoods. It is a surprising thing to come across this

bush in flower, especially later on in November. The poet ran across this glowing shrub in the somber, leafless woods, and sang: "Has time grown sleepy at his post and let the exiled summer back?"

Dowsers and diviners cut a forked twig of the witch hazel and parade around with this "divining rod," which is supposed to pull and point downward over underground streams and ore deposits. An eminent botanist friend of mine delights in performing this feat. While leading a group through the woods he will cut a hazel rod and with great aplomb, pace before the group, the wand fairly pulling his arms to the ground. The trick is to grasp the forks in such a way that by straining the clenched fists the rod tip is forced downward.

When the witch hazel blooms the countryman knows that this is the last flowering in the thickets until the shad bush in earliest spring dons her lacy bridal veil. Now the hazel blossoms in an October setting of rare beauty. Later in November the golden flowers will be the only color left. Now there is drifting blue haze over the woods, long light across the tawny fields, scarlet haws and rose hips bright in the thickets and the coppery purple of huckleberry and viburnum lacing the edgings.

The true countryman loves every season of the year. He finds outdoors magic in every month and in all weather. Try to pin him down and he'll play no favorite. But deep inside he goes along with the Hoosier poet's love of October, when "the air's so appetizin'; and the landscape through the haze of a crisp and sunny morning of the airly autumn days, is a picture that no painter has the colorin' to mock—When the frost is on the punkin and the fodder's in the shock."

I am no friend of the English starling. I take a backseat to no man in my intense dislike for this boorish,



arrogant interloper of a bird, whose name has become legion in this country, and whose sheer weight of numbers is slowly driving our beautiful and well-mannered native song birds to the wall. Naive and well-meaning conservationists, who all too often wreak havoc by their untutored meddling with balances long ago set by the Hand within the shadow, first imported this feathered hoodlum to help combat the Japanese beetle.

The starling came to these shores wise in the old world techniques of gangster tactics. His motto is "Me First." His moral concepts are not worth mentioning. Like the Roman legionnaires he came, he saw, and right now he is conquering the whole country.

Thirty years ago there wasn't a starling in all the land, except a few imports along the eastern seaboard. Now there is not a farm nor hamlet nor town nor city without its pack of these noisome foreigners. In the city they deface building facades and keep folks awake with their all-night clatter. In the country they wage constant warfare with our native birds, contesting for feeding grounds and nesting sites.

Their instinct is to establish tremendous rookeries, to which they

flock just before nightfall by countless thousands. Here, to give the devil his due, they contribute to one of the most stirring and thrilling sights in all of Nature's pageantry. If you can learn of a rookery not too far distant, by all means drive there some evening just before sundown, and watch these birds come in for the night.

The rookery in my hiking bailiwick is an abandoned area of several acres, just on the edge of a sizeable city, thickly grown to wild crabapple and wild cherry and other weed trees. This spot has been a favored roost for many years. I would hate to say how many birds form the nightly congregation, but they must surely number in the millions.

First comers arrive late in the afternoon. Then business picks up as the evening encroaches until at times the whole sky is darkened by feathered multitudes hurtling in from all points of the compass. In big flocks and in small flocks they come, executing their flight commands with marvelous precision, and when over the landing field dropping down out of the sky in tumbling snow-flake falls that are wondrous to behold.

I repeat that I am no friend of the starling. I hope that someday a workable scheme can be devised to deport the whole mob. But even in my intense dislike I am forced to take off my hat to this bird for the many enchanted evenings I have watched his thronging hordes weave flight patterns overhead, filling the whole sky with precision trained echelons most marvelous to behold.

Now that October is here once again, the countryman anticipates those occasional golden days so satisfying in their harmony of color and sound that no day of other seasons can quite compete with their perfect hours. Only country work and country noises break the quiet of the early morning, when the sun blazes in the treetops and turns back the white quilt of frost on the grass.

There is no sadness, no harshness in Autumn now. The country children run laughing along lanes where leaves flutter down in a golden rain and a breeze sets the trees singing above them. Walnuts hang heavy on all the trees, perhaps wondering where are the small boys with brown-stained hands, who used to come seeking them with sacks and throwing sticks.

People who write poetry love October. When else during the year can they sing of "a yellowing leaf among the boughs . . . the smoky air that hints of frost at dawn?"

Wild Turkey Driving By Large Groups Illegal

Reports are that some Pennsylvania hunters may be breaking the law unknowingly by combining bear hunting with wild turkey driving. There have been complaints that bear hunting parties numbering more than five persons have driven or shot wild turkeys.

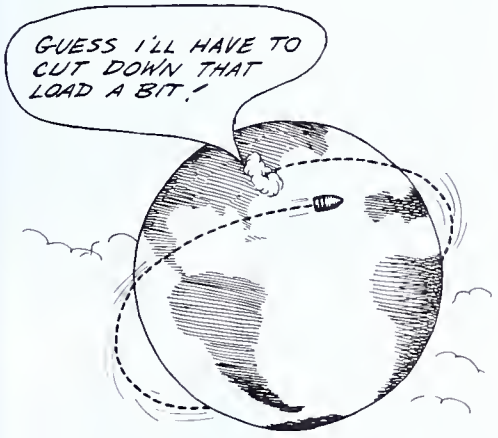
Section 810 of the Game Law reads: "During the open season for taking small game, it is unlawful for more than five persons to hunt in unison or to cooperate in any manner with each other to hunt for wild birds or wild animals of any kind other than big game."

Beyond the requirements of law, most hunters feel the wild turkey deserves better treatment. Many sportsmen experience greater pride and satisfaction from outwitting and bagging one of these magnificent birds than from taking any other wild game in the state, with the possible exception of the black bear.



Long Rifle

WESTMORELAND COUNTY—I investigated a peculiar case recently, involving a woodchuck hunter. He shot at a chuck, killed it, but the lead core of the bullet continued on into a bedroom window of a house some 200 yards away. The house was at about a 45 degree angle from where the chuck was killed. The lead of the bullet went through a thick grove of trees (it was green from cutting through the leaves), broke a hole in the window about the size of a baseball, and fell on the bedroom floor. Luckily, the bullet was well spent before going through the window; the lady of the house was in the room at the time. The hunter was using a 270 caliber rifle and hand-loaded cartridges. There was no Game Law violation; the hunter was displaying his license properly and was at least 200 yards from the house. However, he did pay for the window and I think he is going to change the type of bullets.—District Game Protector D. W. Heacox, Irwin.



Wildcat Cafeteria Loses Lease

TIOGA COUNTY—An unusual experience was related to me recently by Mr. DiGusseppi of Spring City. He was spending a weekend at his camp in Elk Township, Tioga County during July when he noticed a peculiar odor coming through the building. The odor was so bad, in fact, that it was decided something had to be done if he and his friends were to stay any longer. They went to town, purchased some sulphur candles and placed them under the cabin porch. It didn't take long before a groundhog came rushing out but the big surprise which followed was a wildcat leaving right behind the chuck. Further investigation disclosed the carcasses of 10 rabbits on which the wildcat was dining and which, of course, caused the odor. After one whiff of that sulphur, the wildcat moved his cafeteria elsewhere.—District Game Protector Ed Fasching, Downingtown.

Garden State Travelers

MONROE COUNTY—The third deer ear-tagged by the New Jersey Conservation Department in three years was killed by an automobile in this district last July. New Jersey authorities live-trap the deer from areas closed to hunting and release the animals on open land. The first deer was killed in 1953 on Route 209 near Bushkill; the second near Shawnee in 1954 and the third on Route 402 north of Delaware Water Gap. The latest deer was by far the largest, weighing over 150 pounds with a rack in the velvet which wouldn't fit a bushel basket.—District Game Protector John H. Doebling, East Stroudsburg.



Routine Eye-opener

CENTRE COUNTY—Quite often every-day events become so familiar to us that it takes somebody else to call our attention to the wonders of nature we see constantly. During late June my father was at my headquarters for a visit. Early one morning he accompanied me to check my fox sets on State Game Lands 60. Seeing wildlife on these lands day after day is just taken for granted by me. But it took a remark by my father at the end of our trip to make me realize that most folks see only on rare occasions or once in a lifetime what to us is commonplace. My Dad said he saw more game on that one trip than he sees ordinarily in an entire year. And we did see quite a bit—two red foxes, two skunks, one raccoon, three grouse with broods of young, one turkey with a brood of young, at least a dozen deer and three rabbits. To add even more excitement to the trip for him, I killed two rattlesnakes that day.—District Game Protector Robert H. Sphar, Philipsburg.

Tale of Two Nests

LEBANON COUNTY — While working near a barn on State Game Lands 145, Food and Cover Corps foreman George Weller found two rabbit nests about 20 feet apart. One nest contained four young rabbits while the other had five. All of the rabbits, however, had been freshly killed, a speck of blood on their throats showing where the fatal wounds had been administered. Weller returned and made another inspection in about an hour and found several of the young were missing. Thinking this was the work of a weasel, he set a trap in front of each nest. The following morning the guilty party showed up—a large housecat caught in one of the traps. —District Game Protector Elmer Turner, Mt. Gretna.

Stinking Surprise

NORTHAMPTON COUNTY — Almost anything can happen to a Game Protector or Deputy, even when taking care of the most routine matters. While I was on vacation during July, one of my deputies received a complaint of woodchucks damaging a small garden in Roseto. After exhausting all other methods of getting Mister Chuck, the deputy finally had to resort to the old method of a steel trap. On checking the trap the first morning after setting it, he was elated to find he was successful after so many futile attempts. Without looking, he reached for the trap which had been dragged under a woodpile. The Deputy immediately began hauling on the chain. By the time he was able to distinguish the large black tail of a skunk, it was too late. On talking to the deputy later, he told me next time he was always going to look first. He has been sleeping under the stars for the past few nights and Mr. Woodchuck has stopped eating up the garden, probably because he can't chew for laughing.—District Game Protector Harold Wiggins, Nazareth.

Bear Likes Berries

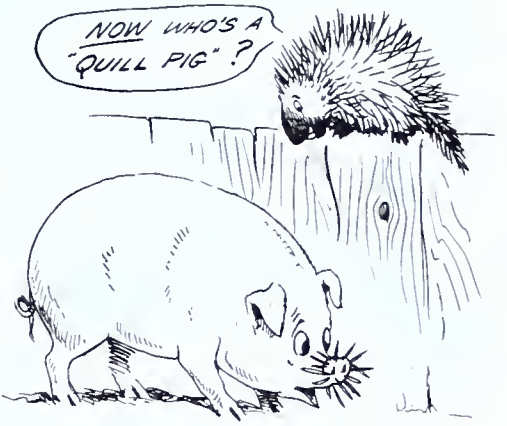
LUZERNE COUNTY—On a recent inspection trip to the food strips on State Game Lands 206, Luzerne County, the fondness of bear for

juneberries (also known as service berry) was again evident. The border cutting around the food strips contained a large amount of juneberry and most of the shrubs had a fair crop of fruit. They did have, that is, until the bear moved in. Every shrub was ripped and torn, the larger stems showing the claw marks where the bear had crawled up and by his weight, had bent the branches to the ground so he could strip them clean. —Land Utilization Assistant Nick Ruha, Forty Fort.

On The House

SCHUYLKILL COUNTY—A gray squirrel with a sweet tooth recently caused quite a commotion at the Atlas Powder Company plant in Reynolds. The company has vending machines installed for dispensing candy and, finding one of them empty, employees reported to the vending machine company. When the machine was opened, they found a gray squirrel inside. He had consumed one entire row of candy bars and was too fat to escape the way he had entered.—District Game Protector Billy Drasher, Tamaqua.





Of Pigs And Porkies

SUSQUEHANNA COUNTY—Mrs. Evelyn Rice of Brushville is wondering what pigs and porcupines have in common. One July morning Mrs. Rice discovered that during the night before, one of her pigs acquired about 20 porcupine quills in its snout. The "porky" had to scale a three foot board fence to enter and leave the pen. Mrs. Rice finally got the pig "de-quilled" with a pair of pliers.—District Game Protector Donald Day, Susquehanna.

Pathways To Plenty

CARBON COUNTY—During July I was doing food and cover development work on five miles of an old roadway and one nearby food plot. The vegetation had completely covered over two miles of this old tram road. When it was removed, it left large bare spots which, due to the drought, were very dusty. While traveling to and from the work site daily, it was very common to see three or four broods of grouse dusting on these new bare spots. Before, we rarely saw any grouse. It was especially gratifying since I had recently had two cases of grouse being found with heavy infestations of ticks and lice, one bird even losing its life. —District Game Protector William Fulmer, Lehighton.



Talking Turtle

PIKE COUNTY—While calling crows on the Raymondskill, a large snapping turtle came swimming up the stream. He climbed out of the water opposite the place where I stood behind a big pine tree and proceeded to crawl up a steep bank. After I again sounded the crow call, he raised himself up full height and stretched his neck, looking all around the small opening as if to locate the crows. After a second call, he went through the same performance again. A load of 7½ chilled shot ended his curiosity. Was he after a crow? Or did he figure he could steal whatever the crows had found? At any rate, this was the first time I ever called a snapper.—District Game Protector John Lohmann, Milford.

Mow 'Em Down

ADAMS COUNTY—It looks like wild turkeys are becoming rather vicious in this vicinity. A wild turkey hen became alarmed when a lawn mower approached her nest near a cottage at Pine Grove Furnace. She flew at and attacked the man who was operating the mower, landing on his head and inflicting some scratches.—District Game Protector John R. Spahr, Gardners.

Belly Full

CLARION COUNTY—On June 19 a quartet of Clarion County crow hunters received a lesson on mother nature's attempt to keep a balance of wildlife. Cy Kriebel and Joe Uzmack of Clarion and Freeman McCleary and Bill Slaugenhaupt of Knox were calling crows on Cogley Run when one of the group spotted a large rattlesnake that appeared so full of food he could hardly move. Upon killing and examining the big snake, it was found that the rattler had eaten a full-grown weasel and a half-grown grouse. The weasel had been partly digested but the grouse had been swallowed so recently that some of its feathers were still dry.—District Game Protector Don Schake, Knox.

Baby Sitter

CHESTER COUNTY—One of our Farm Game Cooperators, Ralph Topper, also holds a commercial game propagator's permit and raises pheasants for the market. He reports that a cockbird took over the duties of the hen last July by sitting on a nest of 15 eggs laid in one of his holding pens. Mr. Topper noted that the ringneck rooster was a good "setter" and only left the nest for a brief period each day to get some feed and water.—District Game Protector Pete Filkosky, Parkesburg.





Commission Plans Ahead For Emergency Winter Feed

It may be that some persons still assume that supplemental wildlife feeding during winter months is a program left to chance. Such is not the case in Pennsylvania. Even as Game Commission employees prepared the soil and planted crops on State Game Lands this spring they thought ahead and planned emergency game feeding supplies for the coming winter.

Surplus grains harvested from the many Game Lands food strips are stored and later distributed to provide food for wildlife during severe winter periods, or when natural foods are in short supply. Last winter over 21,000 bushels from these harvested crops were placed in feeders by Commission employees, sportsmen, farmers and Boy Scouts.

In addition to these surplus crops over 41,000 bushels of grain, mostly corn, were purchased from farmers and seed merchants to provide emergency food for wildlife, principally wild turkeys, in forested areas and on marginal farms. The more than 62,000 bushels of corn and other grains were utilized by many species of wildlife, and should help assure a supply of game for the coming hunting seasons.

In addition, over 77,000 pounds of block and rock salt were placed in small quantities in remote areas in late winter and spring to complete the diet requirements of deer.

As can be seen, grains raised or purchased by the Game Commission were used to good advantage in past winters. Right now, the food requirements of game during the critical months of next winter are being assessed.

Oak Wilt, Timber and Game

A news item from the Pennsylvania Department of Forests and Waters tells that agency was host to an international group of 57 scientists, mostly from eastern states and Canada, earlier this month. The purpose of the conference was to exchange knowledge as to how the oak wilt fungus disease can be brought under control.

The disease is spread above ground by contaminating insects and below ground through the roots of healthy trees connected to roots of diseased trees. The problems involved in killing all roots directly connected with diseased trees are currently being investigated by the cooperative efforts of The Pennsylvania State University and the State Departments of Agriculture and Forests and Waters. It is believed progress is being made in checking this disease.

Maurice K. Goddard, Secretary of Forests and Waters, says that in Pennsylvania 53% of all forest trees are of the oak species. These valuable trees constitute a great economic resource. They are found throughout the 15,000,000 acres of forests land in Pennsylvania.

To hunters and wildlife managers the elimination of oak wilt has another important aspect. The one-time value of the chestnut to many forms of wildlife is recalled. The loss of this mast producer through blight, years ago, placed an extra value on surviving nut-bearers, oaks particularly. It is, therefore, the hope of foresters and wildlife people that ways will be found to eradicate the oak wilt disease in order that the valuable timber and wildlife resources will not suffer.

PENNSYLVANIA GAME COMMISSION
TIMES OF SUNRISE AND SUNSET AT HARRISBURG, PENNSYLVANIA
(77th Meridian Time)

	September		October		November		December			September		October		November		December	
Date	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Date	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset
1	5:34	6:39	6:03	5:50	6:36	5:05	7:10	4:42	16	5:49	6:15	6:18	5:27	6:53	4:50	7:23	4:42
2	5:35	6:37	6:04	5:48	6:37	5:04	7:11	4:41	17	5:49	6:13	6:19	5:25	6:55	4:49	7:24	4:42
3	5:36	6:36	6:05	5:47	6:38	5:03	7:12	4:41	18	5:50	6:11	6:20	5:24	6:56	4:48	7:25	4:43
4	5:37	6:34	6:06	5:45	6:39	5:02	7:13	4:41	19	5:51	6:10	6:21	5:22	6:57	4:48	7:25	4:43
5	5:38	6:33	6:07	5:43	6:40	5:00	7:14	4:41	20	5:52	6:08	6:22	5:21	6:58	4:47	7:26	4:43
6	5:39	6:31	6:08	5:42	6:42	4:59	7:15	4:41	21	5:53	6:06	6:24	5:19	6:59	4:46	7:26	4:44
7	5:40	6:29	6:09	5:40	6:43	4:58	7:16	4:41	22	5:54	6:05	6:25	5:18	7:00	4:46	7:26	4:44
8	5:41	6:28	6:10	5:39	6:44	4:57	7:17	4:41	23	5:55	6:03	6:26	5:17	7:02	4:45	7:27	4:45
9	5:42	6:26	6:11	5:37	6:45	4:56	7:18	4:41	24	5:56	6:01	6:27	5:15	7:03	4:45	7:27	4:45
10	5:43	6:25	6:12	5:36	6:46	4:55	7:19	4:41	25	5:57	6:00	6:28	5:14	7:04	4:44	7:28	4:46
11	5:44	6:23	6:13	5:34	6:47	4:54	7:20	4:41	26	5:58	5:58	6:29	5:13	7:05	4:44	7:28	4:47
12	5:45	6:21	6:14	5:33	6:49	4:53	7:20	4:41	27	5:59	5:56	6:30	5:11	7:06	4:43	7:28	4:47
13	5:46	6:20	6:15	5:31	6:50	4:52	7:21	4:41	28	6:00	5:55	6:31	5:10	7:07	4:43	7:29	4:48
14	5:47	6:18	6:16	5:30	6:51	4:52	7:22	4:41	29	6:01	5:53	6:32	5:09	7:08	4:42	7:29	4:49
15	5:48	6:16	6:17	5:28	6:52	4:51	7:23	4:42	30	6:02	5:52	6:33	5:07	7:09	4:42	7:30	4:50
									31			6:35	5:06			7:30	4:50

For your convenience also is furnished the following:

75th Meridian - Philadelphia, Northeast Airport, Northeast Tacony. (8 minutes before)

76th Meridian - Southeast Chester County, Port Clinton, Tunkhannock. (4 minutes before)

77th Meridian - Eastern Adams County, Harrisburg Airport, Williamsport and Eastern Tioga County. (as stated on above graph)

78th Meridian - McConnellsburg, Huntingdon, Coudersport. (4 minutes later)

79th Meridian - Somerset, Seward, Warren (8 minutes later)

80th Meridian - Eastern Green County, Rices Landing, almost through the center of Pittsburgh and a little east of Erie. (12 minutes later)

SPECIES	OPEN SEASONS FIRST DAY	OPEN SEASONS LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 29	25	25	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Rails (except Sora) and Gallinules	Sept. 1	Oct. 29	10	20	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Woodcock	Oct. 1	Nov. 9	4	8	Oct. 1 to Nov. 9	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
NO FEDERAL STAMP REQUIRED TO HUNT SORA, RAILS, GALLINULES, WOODCOCK, JACKSNIPE AND DOVES.						
Wilson's or Jacksnipe	Oct. 1	Oct. 15	8	8	Oct. 1 to Oct. 15	½ hr. before sunrise to sunset
Doves	Sept. 15	Oct. 19	8	8	Sept. 15 to Oct. 19	½ hr. before sunrise to sunset
Ducks (including American and Red-breasted Mergansers)	Oct. 10	Dec. 17	4 (only 1 Wood Duck) (only 1 Hooded Merganser)	8 (only 2 Wood Ducks) (only 1 Hooded Merganser)	Oct. 10 to Dec. 17	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Geese (except Snow)	Oct. 10	Dec. 17	2**	4**		
Coots	Oct. 10	Dec. 17	10	10		
Brant	Oct. 10	Dec. 17	6	6		

FEDERAL STAMP REQUIRED

The season for waterfowl in the Counties of Bucks, Philadelphia and Delaware, and on the Delaware River bordering such counties, shall be Oct. 29 to Jan. 6, 1956, inclusive.

MIGRATORY BIRD HUNTING METHODS

Permitted: Bow and arrow, or shotgun not larger than 10-gauge, fired from shoulder (including hand-operated and semi-automatic repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat; sailboat or other craft. Shooting is permitted from a boat or other craft having a motor attached if such craft is fastened within or tied immediately alongside of any type of stationary hunting blind.

Prohibited: All rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat. Waterfowl, coot, gallinules and doves may not be taken under any circumstances by the aid of salt, or shelled or shucked or unshucked corn, wheat, or other grains, or other feed or means of feeding similarly used to lure, attract, or entice such birds to, on, or over the area where hunters are attempting to take them. As used herein the terms "salt, or shelled or shucked or unshucked corn, wheat, or other grains," or "other feed or means of feeding similarly used," shall not be construed as including salt blocks, properly shocked grain, standing crops (including aquatics), flooded standing crops, flooded harvested crop lands, or, in connection with the hunting of waterfowl, coot and gallinules, grains found scattered solely as a result of normal agricultural practices, or, in connection with the hunting of doves, grains found scattered solely as a result of normal agricultural harvesting. Waterfowl may not be taken by means, aid or use of cattle, horses or mules and no motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING

It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock, Wilson's or Jacksnipe and Doves.**

* Possession 90 days after close of season where taken.

** Not more than 2 geese of any kind (except Snow Geese) in a straight or mixed bag a day, or 4 singly or in the aggregate in possession.

NO OPEN SEASON—SNOW GEESE, AND SWANS.

Pre-Season Dog Work

By Herbert Kendrick

ANOTHER interesting and eagerly awaited hunting season is only a very short time away. At the first hint of fall, gunners begin to buy new equipment, clothing, shells, and spend a great deal of time cleaning, adjusting, and oiling guns, while the dogs lazily lie in the kennel. This is the time of year to really concentrate on the hunting dog, to get him in the very best of condition for field work. Time spent in his preparation will pay great dividends on opening day and throughout the season.

Take your dog to a good veterinarian for a general check-up. His heart, eyes, ears, stomach, nose, feet, and skin condition should be carefully examined. Do not wait for signs of illness before visiting the vet.

After the dog's health is assured, he should be given a daily run in the field. Start with very short trips, gradually lengthening them as the weather becomes cooler and the dog becomes toughened. With proper exercise excessive fats will be reduced, while he strengthens his muscles, sharpens his nose, and gains valuable experience in handling game.

If you have trouble locating game on which to work your dog, select a regulated shooting ground where you may buy a bird or two. Many of the regulated shooting ground owners have invited trainers to use their fields for the training of dogs.

These warm up hours for your dog afford an excellent opportunity to make sure he is staunch on point. If he flushes, or creeps, work him on a long cord and when he hits the scent of game get a hold on the cord and as he flash points, hold him, working your way to him, then steady him with your hands. Keep the dog on point until you feel he is steady.

Polish your dog's backing, steadiness to wing and shot, and retrieving, then perhaps he could stand a refresher course in heeling, responding promptly when called, quartering by hand signals, and general obedience.

Conditioning and practise is as necessary for the working dog as it is for a prize fighter, and if you do not have the time to get the dog in proper shape, send him to a professional trainer who will prepare him for those days of strenuous physical activity.

The young dog especially needs more time and effort in pre-season training. Give him a fair chance to prove his worth. If at a tender age last year he pointed and held his game, do not be too sure he will repeat this season. His great independence and enthusiasm for the sport may surpass his early instincts. If punished and cramped too severely the little feller may become broken spirited and be worthless as a worker. Exercise extreme patience and caution and try to understand the temperament of the hopeful.

Use good reasonable judgment in evaluating a puppy, no matter how great his parents may be. Remember he is an individual and may differ greatly from his sire or dam. Give him ample time to develop and make sure he receives correct training.





PGC Photo by Cady

CONDITIONING AND TRAINING are behind points such as this. Here Sam's Madison Jake, pointer dog owned by J. Otis Carpenter of Harrisburg portrays championship style.

It is truly sad to see a hunter realize at the last moment that he should have a trained dog for the season, frantically calling and wiring commercial kennels for a suitable pointer or setter. After much confusion a dog is shipped, arriving too late to be worked. The new dog is started into the season with a strange handler and in unfamiliar territory. If a dog should perform satisfactorily under those conditions he is really one in a million.

It takes time for a new dog to accept a new master and understand his requirements. Acclimation to climate, terrain, and cover also takes ample time. Give a dog a chance to work for you and successes will be more abundant.

The gunner who treats his dog as he does his close friends is the wise man who derives the greatest benefit from the animals that work their hearts out to make every field day one long to remember.

Spend these last days working and conditioning your dog, so that he will be fit to outsmart smarter birds and cover more territory in search of those that have changed their habits.

Many birds have a poor sense of smell. The buzzard depends almost entirely on sight to locate his special diet and the great horned owl is known to eat skunk.

* * *

The arts of jet propulsion and smoke screening were mastered by the squid and the octopus long before man ever dreamed of such things. Water squirting through funnels propels the animals, and enemy pursuers are confused by the discharge of clouds of ink.

* * *

The male hardhead catfish carries the eggs in his mouth until the little fish are hatched. Then continues to carry the little fish until they have reached a length of about three inches.



OUTDOOR FUN WITH A FUTURE



Outdoor Safety Through Skill

By Ted S. Pettit

EACH hunting season, a relatively small number of sportsmen end up as cold statistics on the records of The National Safety Council and State Game Commissions. Many of these people are able to read their names in hunting accident news stories, but some of them will never read or hunt again. The number injured or killed in gun accidents is small indeed compared to the total number who spend time in the fall afield with shotgun, bow or rifle. Relatively speaking, hunting is probably safer than driving a car.

But small as the number is, it is still much too large when you consider that most of the accidents are caused by carelessness, thoughtlessness or plain foolishness. Safety experts know that most gun accidents could have been prevented.

Based on a careful study of recorded accidents over many years, the National Rifle Association of America, the Pennsylvania Game Commission and other experts in gun and hunting safety, have developed a set of rules that if followed carefully, will prevent most accidents.

These rules are not just something to read, while you think to yourself "That doesn't apply to me. I do that anyway." They are rules to practice and practice and practice, until they become a part of every action in the woods. Practice them until you follow them subconsciously.

Treat Every Gun As If Loaded

The first rule is to treat every gun as if it were loaded, even if you know it is not. Do not point a gun at anything you do not want to shoot. When picking up a gun or when taking a gun from someone else, open the action, or check to see that the action is open. "I didn't know it was loaded," is the first excuse of people who shoot someone else. If they had checked first, they would have known.

Store Guns and Ammunition Safely

Statistics show that most firearms accidents happen in the home, hunting cabin, car or boat, or on the way to woods or fields. Guns and ammunition should be stored, and preferably locked up where children cannot reach them. If possible to remove the bolt or other firing mechanism when storing the gun, do so. But be sure that the gun and magazine are empty and that the ammunition is not near the guns where it may be loaded easily by children. When carrying guns in a car, truck or boat, be sure that ammunition has been removed from the chamber and the

magazine and that the action is open. In most states it is a violation of the law to carry a loaded gun in a car.

Be Sure of Correct Ammunition

Nothing can be as embarrassing, or as potentially dangerous, as arriving at a hunting cabin or deer stand and finding that you have the wrong ammunition for the gun you brought along. Check before you leave home and be sure you take the correct sized shells. After each trip empty the pockets of your hunting jacket or shell vest and store the ammunition in a safe place. A twenty gauge shell may be mistaken for a twelve in the excitement of a grouse flushing—and slide right down the barrel of the twelve. A correct sized shell fired in that barrel can easily be the cause of your taking up reading in Braille, if you still have hands or a head left after the barrel explodes.

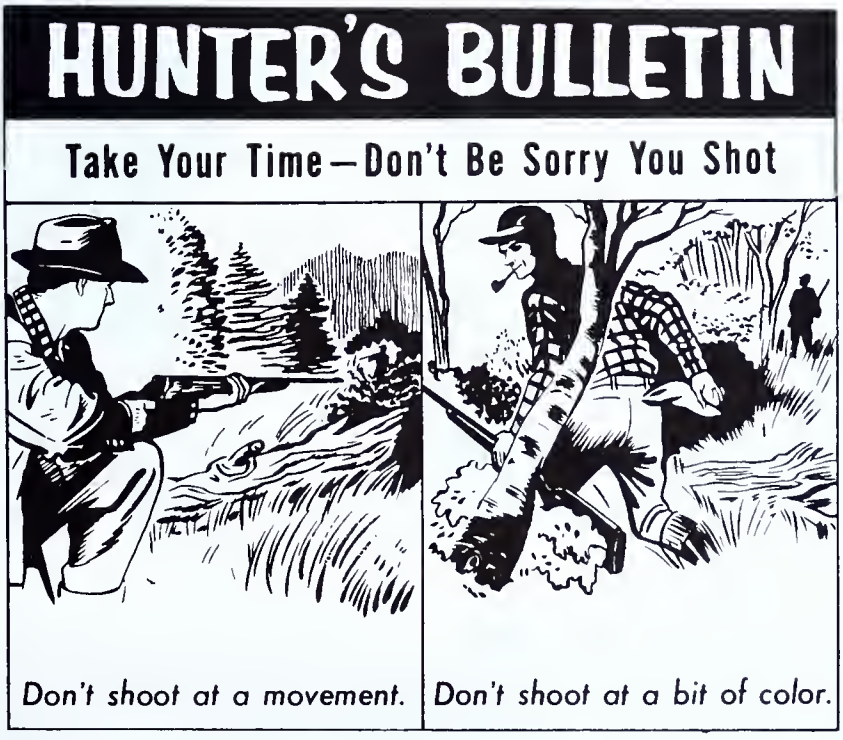
Carry Gun Correctly

One of the most important rules in the field is to carry your gun correctly, so that the muzzle always points in a safe direction. It is especially important when hunting with one or more companions. Guns may be carried comfortably in a number of ways, depending upon whether you walk side by side, or single file, so that the muzzle points up or down. Then if you stumble or fall, and the gun is accidentally discharged no one will be injured.

Insist too that your companions follow this same rule. It's rather annoying to say the least, to have to call off a hunting trip because one of your companions fills you or another companion with a load of chilled shot.

Be Sure of Your Target

Equally important is being sure of your target. Do not shoot until you are absolutely certain of your target. Men, horses, cows or other livestock may look like deer in poor light or in the excitement of hunting. While



HUNTER'S BULLETIN

Take Your Time—Don't Be Sorry You Shot



Don't shoot at a movement.



Don't shoot at a bit of color.

mistaken identity of targets is sometimes funny, it can be tragic.

Each year newspapers carry stories of tenderfoot hunters who ride horses high into the mountains after elk, deer, sheep or goats. They tether their horses in a small clearing, then set out on foot. Finally they return at dusk and see something moving in a clearing near where they left the horses. Bang! Bang! Dead horse. Twenty mile walk home, plus bill to pay for horse.

On the other hand, the story of the father, mother and son who parked their car by the side of the road and entered the woods to hunt deer is not so amusing. In ten minutes two of them were dead, shot by each other.

It is far better to miss a shot at a ten point buck than run the risk of shooting your hunting partner. It's a little rugged explaining how a fellow wearing pants and a hunting jacket looked like a deer. On top of that, you'll lose your hunting license.

Stick to Your Own Zone of Fire

When hunting birds or rabbits with companions, it is important that you stick to your own zone of fire. You may walk across a field, three abreast, when a pheasant flushes or a rabbit bounds out of a thicket. The bird or bunny may take off straight away or it may turn and head for one of your partners. Hold your fire and give your friend the shot as the animal passes him. It's better to miss an easy shot than to risk hitting your companion.

Before you start out, agree on your method of procedure, and your zone of fire. Then stick to it to avoid accidents.

Cross Fences and Stone Walls Correctly

Crossing stone walls, fences, streams or blowdowns can be tricky business with a loaded gun in your hand. It's easy to slip, stumble, fall or snag the gun on a branch and discharge the gun. It's equally easy to shoot a companion or yourself and spoil another-wise pleasant day in the woods.

In difficult going it's best to open the action of the gun, remove the shell from the chamber and carry the broken gun across the stream or through the blowdown. Crossing fences, open the gun, remove the shell, and pass the gun over or under the fence to your companion who has done the same thing before he climbed under or over. If alone, open the action, slide the gun under the fence; then climb under yourself.

Watch Your Background

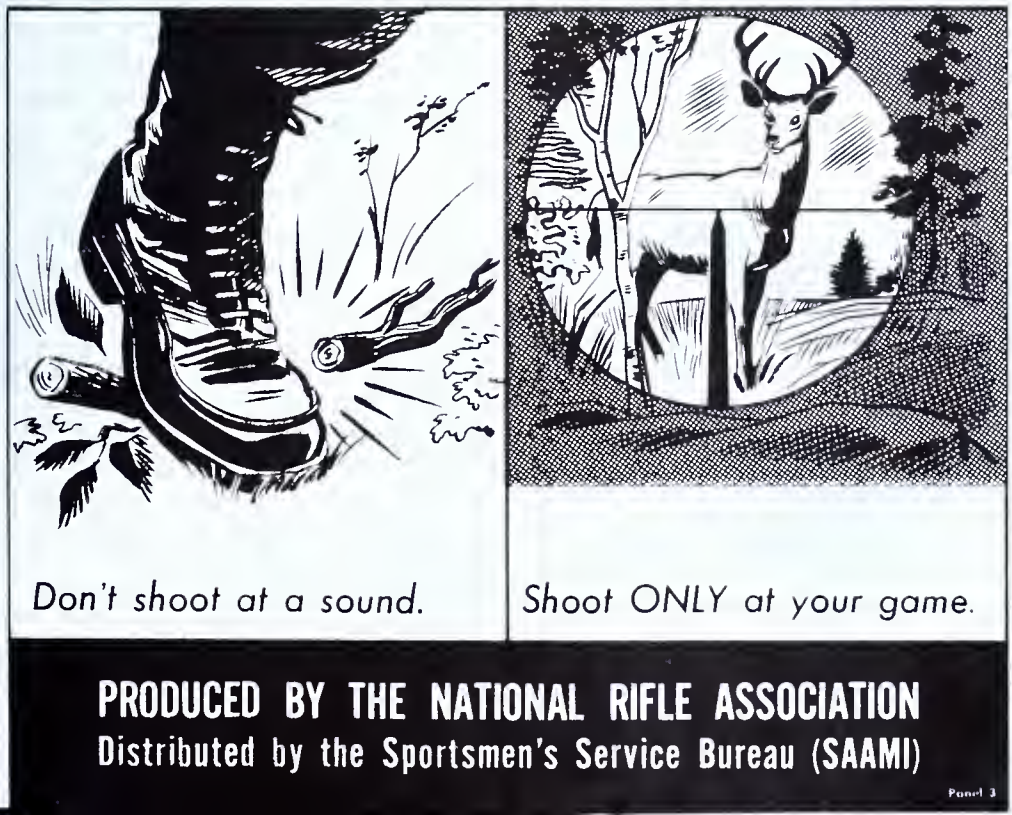
Too many hunters, in the excitement of holding on a flushing bird or rabbit forget that their shot will carry quite a distance. They fail to think of what lies behind their target. It may be a farmhouse, a hunting cabin, a public highway, a pasture or a field where a farmer is working. Cows, farmers, passing motorists or houses are not helped much by being peppered with shot or shell. Sometimes, they get even a little nasty about it. One hunter recently returning to his car put up a grouse right beside the road. He was proud of his quick reflexes and the fact that he clobbered the bird before it got more than six feet off the ground. But the new windshield and paint job for his car somewhat dampened his spirits and the razzing he got at the gun club did not make up for the perfect shot or the sauteed breast of grouse.

Observe Game Laws

Not strictly a safety rule but very important is to observe game laws. The laws were made to protect the future of your sport. They are made by experts in game management after careful study and surveys. Your ideas may not always agree with the technicians; but remember that they are sportsmen too and are devoting their lives to improving your sport. They are not always right, and readily admit it themselves. But neither are you, if you only stop to think about it and are big enough to admit your mistakes.

Courtesy Afield

Closely connected with safety, and to some extent part of it from a personal viewpoint, is hunting courtesy and outdoor good manners. For the city resident it may be hard to realize





Hunt only where you have permission.

that all those woods and fields out in the country belong to someone—and that someone is just as jealous of his property rights as anyone else. The city resident would be annoyed if someone entered his apartment or yard and did pretty much as he pleased. The landowner in the country is equally annoyed at uninvited intrusions on his land, especially if it is cultivated land, pasture, orchard or tree plantation.



Don't trample growing crops.

It's always well to ask permission before entering private land, even if not posted. On posted land always ask permission and respect the land owners answer. Most landowners are reasonable and hospitable people. But they have the right to expect courtesy on the part of their guests—hunters.

Avoid trampling cultivated fields, and be sure to close all gates. Use care crossing fences. Not only to avoid a tear in your new hunting pants but also to avoid breaking down the fence. A farmer who has to round up escaped stock will not be too happy to see you again—or any other sportsmen for that matter. Most posted land is the result of unhappy experiences on the part of the landowner with so-called sportsmen.

A few other quick rules: Be careful with fire. Be sure cooking fires or cigarette and cigar butts are dead out before leaving them. Do not scatter lunch wrappers or cans around. Bury them or take them home with you. That little spruce or pine, or brilliant red cluster of autumn leaves may look nice at home. But remember, they aren't yours and you may be prosecuted for removing them from private or public land. Do not block driveways or roadways with your car. Some farmers take a dim view of such practices.

Safety in the Woods

In addition to being injured or killed by firearms, many people are injured or die due to accidents while hunting, but in accidents not connected with firearms themselves. Hunters get lost, and die of panic or starvation. Others suffer falls. Still others die of heart attacks while hunting or climbing mountains. Some even have been killed by the game they were hunting.

Again, prevention of these accidents was possible in most cases. A few precautions would have brought

about happy endings instead of disastrous ones.

Everyone who goes into the woods for a week or so of hunting should have a careful physical check-up first. For many people, hunting provides the only real strenuous exercise they have each year. Any sign of heart trouble, for example, pops up with this activity. Appendics too, pick out the most inconvenient times to act up as do other organs that give no trouble during the rest of the year. That tooth that you have been putting off getting fixed may start aching in camp. A doctor's check-up ahead of time would find many of these potential problems and save trouble later on.

Everyone too, who goes out into the woods should know first aid for such things as cuts, burns, bruises, sprains, fractures, snake bite, frost bite and gunshot wounds. Nearly every community has an American Red Cross First Aid course once a year and the fifteen hours or so necessary to complete it may save hours of agony sometime out in the woods. Knowing first aid may make the difference sometimes between life or death, or between the quick end of a hunting trip to rush back to a doctor, or continuing on.

Your local Red Cross chapter has copies of a first aid manual that should be in every sportsman's pack. But he should read it before he goes out so he is prepared for action should an accident occur.

Many sportsmen have learned the hard way the importance of knowing how to use a compass and map. It takes only one experience getting lost to make you wish you'd taken this simple precaution.

Many hunters too have adopted the practice of carrying a "lost kit" in their hunting jacket. These kits are homemade affairs and consist of a small tin box or can (the smallest size possible to hold the necessary contents), plus some or all of the following: small compass, waterproofed matches, razor blade, string or fish line, fish hooks, small mirror for signaling for help, pencil stub and paper, boullion cubes or ready mix soup, chocolate, other emergency food, piece of aluminum foil for cooking rabbit or squirrel, and other





items as needed. In your pocket carry a sharp knife. The tin box or can container can serve as a small pot for cooking boullion or hot chocolate.

Several rather dramatic stories have been told of hunters who have lived to hunt again after being lost, just because they had a "lost kit" with them. Of course these men were skilled outsdoorsmen and knew how to use the contents of their kits.

Anyone planning to hunt in new country would do well to read the pamphlet "LOST" published by The Boy Scouts of America, New Brunswick, N. J. at 10¢. It was written by an expert woodsman after consulting with many state police agencies and conservation departments, based on their experiences searching for lost persons. It is a booklet written for older boys and adults.

Use Common Sense

In the long run, outdoor safety boils down to that old adage "Use your common sense." Stopping to think for a minute instead of acting on the spur of the moment will prevent many accidents.

One rather common occurrence is accidents resulting from game that has been shot but not killed. Imagine the surprise of the hunter who found himself in this predicament:

He had knocked down a buck and carried it a mile to his car. He had dumped it in the back of his station wagon, closed the doors and sat beside the road to smoke his pipe until his partner returned. Suddenly he heard a noise and looked up to see the buck trying to batter his way out of the car. Only stunned by the shot, he had come to and was quite annoyed to find himself caged in one of the more expensive car models. To condense a long but amusing story the buck was finally killed some three hours later, but the car was not repaired for three weeks.

The records of hunting accidents also contain statistics on hunters shot while carrying game, usually deer, out of the woods. They hoist the animal up on their brawny shoulders and carry it piggy-back to the road. But to a good shot a hundred yards away the man and the deer looked like one and since the deer was already dead the shot didn't bother it in the least. But the man underneath—well you know what happened.

Dragging a deer out may be more difficult—but it puts the deer down low and you up high where it is easier to tell you from the deer.

Most outdoor safety is a matter of common sense, taking a few simple precautions, and following some tried and tested rules.

You can have fun in the future, if you practice safety through skill now.

Maine Features Children's Day in Sports

Not since the program was adopted in 1949, have the Governors of Maine missed proclaiming the fourth Saturday in August as Children's Day in Sports, the Wildlife Management Institute reports. In addition to emphasizing sportsmanship, the activity acquaints the youngsters with the benefits resulting from outdoor recreation and how its continued enjoyment is linked with the wise use and restoration of the country's natural resources.

Children's Day in Sports was originated by Emile J. Morin of South Portland, Maine, a Pine Tree Stater who devotes himself to the cause of furthering recreation by youth in the wholesome atmosphere of the out-of-doors. It is Morin's hope that someday this activity will be practiced nationally.

Let's Look At The Record



By Tom Forbes

FORTY percent of all deer killed in Pennsylvania in the 1954 deer season were taken from ten counties located generally in north central Pennsylvania. On a state-wide basis seventy percent of these deer were between one and a half and two and a half years of age. Deer reach maturity at about four and a half years of age and this age group accounts for only three to five percent of the kill. Food conditions on the range, not age alone, governs antler growth. Where the range was overbrowsed, deer up to and including five and a half years of age were killed as spikes. The average diameter of antlers of yearling deer taken in 1954 in Pennsylvania was 0.657 inches. Elk, Forest and McKean Counties which lie within the confines of the Allegheny National Forest produced antler growth generally under the state average although they stood high in the number of deer taken in a statewide comparison by counties.

Studies have shown that antler

LANCASTER QUARTET OF CHAMPIONS poses in front of a target used in winning Pennsylvania State Archery Association championship at University Park early in September. All members of the Lancaster Archery Club's women's team, they are, from left: Rita Moore, who fired a 620; Verna Leaman, 700; Julia Ann Heagey, 708; and Margaret Shenk, 636.

Lancaster Daily Intelligencer Journal Photo



growth is influenced by range conditions. A depleted food supply prevents the normal growth of antlers. Counties engaged in agricultural pursuits generally produce better than average antlered deer although fewer deer are taken in these counties. Where there is an adequate supply of browse deer prefer the wooded areas. Under the present hunting pressure in Pennsylvania with deer one and a half to two and a half years of age furnishing over seventy percent of the annual kill, it should be evident that few trophy deer are available and especially is this true where the deer population is in excess of the carrying capacity of the range. Failure to crop the surplus does has resulted in an unbalanced sex ratio.

Officials of the Allegheny National Forest interviewed deer hunters during recent seasons and the hunters reported seeing an average of thirty two deer for each legal buck sighted during the hunt. Since the available food supply in the Forest has been depleted the forestry officials have recommended that the herd should be reduced.

This year's antlerless deer season is Monday and Tuesday December 12 and 13. The Game Commission has made available 44,000 antlerless deer permits for the counties included in the Allegheny National Forest. Past records indicate that not more than one hunter out of five who take out antlerless deer permits will bag a deer. On this basis we may harvest approximately 9,000 antlerless deer from the forest in the two day season.

The bowman who pauses to analyze the published reports of the wildlife officials may readily conclude that his chance of bagging an antlered deer during the hunting season is only 1-170 on the basis of the 1954 returns. Predicting future kills from previous records is a tricky business. In 1938 a six day antlerless deer season in Pennsylvania produced a record bag of 171,662 deer. This made a daily bag average of 28,500 deer. How herd reduction to the carrying capacity of the range can best be attained is not the purpose of this article. Such matters lie within the province of qualified game management officials who have the responsibility of solving the problem.

Under conditions prevailing in Pennsylvania at the present time the bowman should face the realistic picture. He has only one chance in 270 of bagging a buck and again from the records about one chance in 380 of bagging a buck with three or more points. Stalking a deer of either sex to within bow range is no mean feat and the bowhunter should give careful consideration to planning a hunt during the two day antlerless deer season in one of the counties in the Allegheny National Forest. In addition to your regular hunting license you will need an antlerless deer license costing $1.15. These licenses are issued only by county treasurers and are valid only in the county for which issued. Application forms should be available early in October and the present sale plan requires that the licenses be issued in numerical sequence. It is suggested that each individual application with payment in the amount of $1.15 be mailed in a separate envelope to the County Treasurer of the county in which you plan to hunt for antlerless deer.

Hunting hours during the special archery deer season from October 10 through October 22, 1955, Sunday excepted, are 6:00 A.M. to 5:30 P.M. Eastern Standard Time. Since many of our communities will still be operating on fast or so called daylight saving time it will be necessary to bear this in mind when we set forth to hunt. A special archery license issued only by the Depart-



Photo by Keith Schuyler

ONE OUT OF 270 Pennsylvania bowmen bagged a buck in the 1954 deer seasons. Nobody can predict what the average will be in 1955 but archers will be out in greater numbers trying to up the kill.

ment of Revenue at Harrisburg, at a fee of $2.00 is required in addition to the regular hunting license. Male deer only with two or more points to one antler are legal. Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal.

In states that permit the bowman a hunter's choice officials are of the opinion that the deer herd has not suffered by reason thereof and Wisconsin officials are the authority for the statement that: "Probably an unlimited amount of bow hunting would have no appreciable effect on the harvest of deer where herd reduction is necessary."

When it finally dawns on the average bowman that any deer is a trophy deer when you bring it down with your bow there will be more interest taken in the antlerless deer season and accordingly an increase in the number of deer bagged by the bowmen. Last year the successful bowmen spent an average of three and a half days in their hunt for a buck. With does far outnumbering the bucks in the Allegheny National Forest two days should be ample time to bring down an antlerless deer with the bow.

To avoid being accused of hunting after hours it is suggested that you do not string your bow until the opening hour has arrived and unstring it promptly at the legal closing hour. Good luck and good hunting.

How To Skin A Fox

By Larry J. Kopp

All Photos By The Author

FOX trapping is probably enjoyed by more trappers than the trapping of any other animal. Not only does the crafty fox offer a thrilling challenge to the novice and expert alike, but being distributed in all parts of Pennsylvania, it is possible for all enthusiasts to match wits with him.

Trapping a fox is only part of the game however. It is highly important today that beginning trappers make a serious effort to learn the fundamentals of properly skinning and caring for pelts.

Since all fox pelts for which bounty is claimed must be properly skinned and dried before shipping, it will save time and definitely pay the trapper to learn how it's done.

I am hopeful that the accompanying photographs will help the reader to this end.

1. FIRST STEP in skinning fox correctly is to hang it up by tail. Use light rope or strong twine looped around base of tail. Light chain with small, pointed hooks attached to each end with swivels is also good, allows free turning of animal while skinning. Knife should have narrow and very sharply pointed blade. Begin by inserting point into skin at heel of hind foot; make straight cut all the way up along hind leg to base of tail.



2. CUT SKIN loose around leg between foot and first joint. Pull skin down towards foot until resistance is felt. Do not force it or skin will tear. Cut off leg bone close to foot with pruning shears, leaving feet on pelt. Make a 3-inch slit in fur which will allow you to pull the foot out. This slit will also allow the free circulation of air which is necessary in proper drying of all parts of the pelt.





3. AFTER FEET have been cut off, the pelt is skinned down over vent and on down between the legs as far as can be skinned with ease. Fox is next hung up by legs as shown and skinning is continued. Pelt is skinned down over hind legs and down over belly as far as possible. You are than ready to remove the tail bone.



4. TO REMOVE tail bone, make a cut along underside of tail for about 3 inches. Tail can then be skinned down as far as this slit extends, making it much easier to pull out remaining tail bone. Hold carcass with your right hand as shown and grasp tail bone between fingers of left hand; then with a very firm pull extract the bone. Next slit tail open to tip, being careful not to cut through.

5. PEEL PELT down over body after tail has been skinned out. A sharp knife with which to make an occasional cut and a continuous firm pull on pelt with left hand are main essentials. When front legs are reached, work skin loose from elbow with thumb and forefinger and pull it down towards foot. Follow same pattern as with hind legs.

6. FINISHING JOB is not easiest part of operation. Great care must be taken so as not to cut pelt too much. Always have firm grip on pelt and continue pulling as you make cuts here and there around head. Ears must be cut off close to head. Nose is not difficult to skin but be careful that nose is not cut off pelt.







7. PELT IS PLACED on proper size drying board after skinning is completed. Fur side should be in. Next step is to flesh pelt. With foxes little fleshing is involved but any chunks of fat or flesh should be carefully trimmed off. No scraping is necessary on fox pelts. Skin is then tacked. Use small tacks to fasten hind feet and tail to board but do not stretch skin.



8. LEAVE PELT on drying board for about 24 hours or until flesh side feels fairly dry. It is then removed and turned fur side out. Hold pelt, nose down, and put your arm inside pelt and down into it until you can reach tip of nose. By holding nose with right hand, you can turn and roll pelt down over your arm until it is completely turned inside out.



9. WHEN PELT has been turned fur side out, it is again placed on the drying board as shown and left that way until completely dry or until you wish to market it. Most fox trappers have a good supply of drying boards, in various sizes, and make good use of them. Although prices for fox pelts may not be as good as they were years ago, it is still true today that the pelts that are best prepared bring the best prices.

Those Mighty Magnums

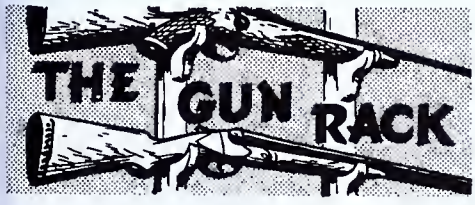
By Ed Shearer

THESE days an observing hunter is noting in the shotgun field new types of weapons and loads called Magnums. The claims about these Roman Candles are wonderous to hear. It seems that one of Gabriel's angels sitting on a cloud peacefully twanging his harp is in grave danger of being riddled with shot if he so much as gives one flap of his wings.

Try to pin one of these customers down to ballistic performance and he'll snort, "That's strictly for the birds. Every one knows that shotgun shooting is 90 per cent art and the rest is pulling the trigger at the right time. Besides I killed a duck stone dead at 85 measured yards with this Magnum."

Now a long experience measuring long shots has made me a bit cautious. It all depends on who is doing the measuring. A deer contracting lead poisoning at 50 yards but stretching his demise out to 300 yards is a 300 yard shot in some hunting logs. A duck smeared at 55 yards, then coasts down a stiff breeze 30 yards to a crash landing is an 85 yard shot and that is it.

As Magnum shotguns have been with us for quite a few years, off and on, with no great fanfare—why this sudden epidemic of "Magnumitis"? Probably the fact that over two million duck stamps are now being sold yearly—has a lot to do with it. This means quite a chunk of citizens turned loose on marshes, blinds or what have you, where the competition for shots at waterfowl really is something to see. Add to that Pennsylvania's outstanding success with wild turkeys, the shooter demand for scatterguns throwing more of the larger sizes of shot is understandable. Thus the arms companies are giving us Magnums.

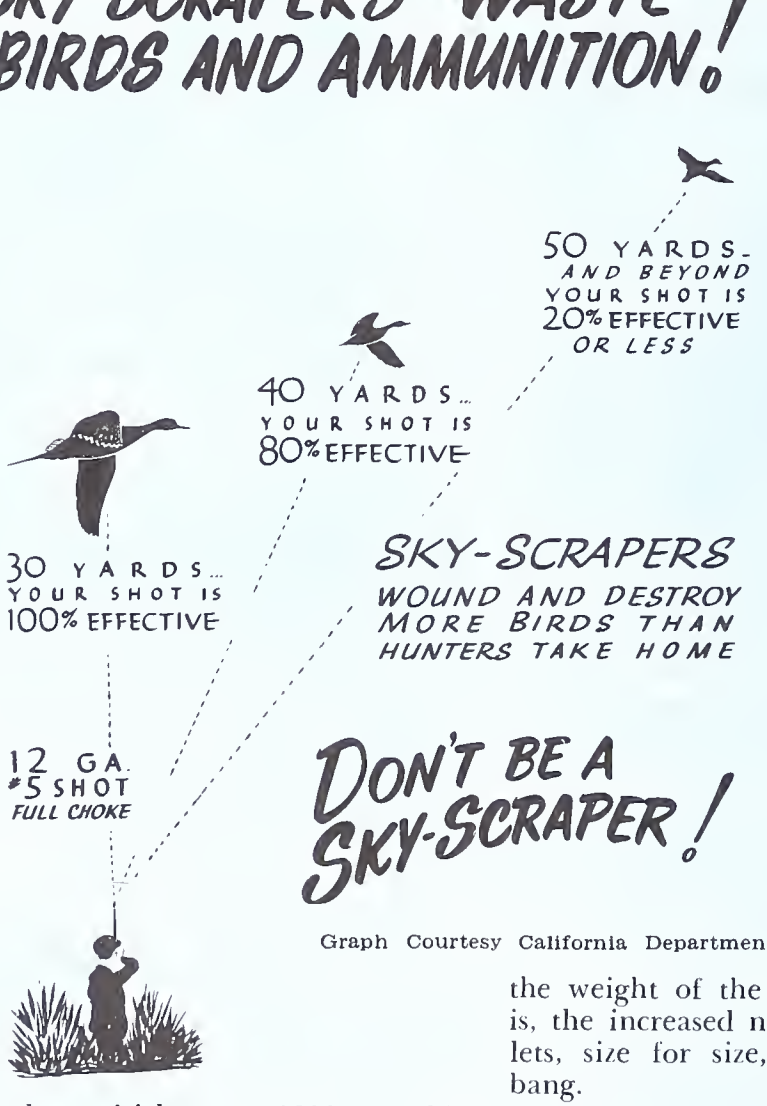


There are many who think this "magnumitis" will make an already bad condition grow steadily worse. As usual, the advertising boys in the front office are painting lurid pictures of long range killing ability. They talk glibly of killing ducks at 75 to 100 yards depending on the particular Roman Candle they are promoting. What will be the effect on those ex-anti-aircraft gunners we all encounter wherever there is a duck?

Last fall while maneuvering to get in range of a flock of pintails, a character opened up on them, pronto. I later paced the range from where the ducks were to the empty shells. It came to just under 200 long paces. Just the range I like to take a chuck with a very accurate scope sighted rifle.

So with these cloudbusters the net result will be mainly a waste of ammo and an increased number of one or two pellet cripples that will eventually die, adding nothing toward a duck dinner. To avoid this situation it is best to have a clear idea of what a magnum will do and what advantage, if any, they offer the duck hunter. Let us turn to the ballistic laboratory and the pattern sheets and see what the facts are.

The first thing we find is that the shot pellet velocities are no faster in the Magnum loads than the regular high velocity loads with the same



Graph Courtesy California Department of Fish and Game

size shot which runs 1300 to 1350 foot seconds. More speed than this would mean greatly increased deformed shot which would more than cancel any advantage gained. Therefore it follows that the individual pellet energy and penetration with the same size shot would run the same over the usual game ranges.

In other words a difference of 50 foot seconds velocity of a No. 4 pellet in the speed of impact of 50 yards would make no difference to a duck. There is that much variation in velocity in a box of shells anyhow. Thus it is apparent that any superiority of the Magnum does not lay in the velocity or striking energy of the individual shot pellet but in the weight of the shot charge. That is, the increased number of shot pellets, size for size, it spills out per bang.

This has a direct effect on pattern density which works two ways. One in terms of extended range because of an adequate density of pattern being carried farther out. Secondly you get increased killing energy at ordinary game ranges because of multiple pellet hits. This brings up another factor. With the heavier Magnum loads it is possible to get pattern density with larger size shot practically equal to that usually obtained with smaller size shot in the nonmagnum loads. Thus you get better velocity out where the game is which means more penetration and killing power. Also with the same size shot the Magnum gives a higher pattern density around the fringe o



he 30 inch circle which is generally onsidered the killing area of the attern. Thus many ducks that vould be merely crippled when hit vith the edge of the pattern with the rdinary load would probably be illed clean with the Magnum loads.

Now let us see how this would vork out on a duck. First we will ssume that the 12 bore full choke vith a standard 70 per cent pattern n a 30 inch circle at 40 yards, is sed. Since No. 4 shot is pretty much he standard magnum loading for vaterfowl, we will use that size for omparison. First we will consider ncreased killing power resulting rom more hits with a given sized hot.

Assuming you center a 40 yard quacker with a standard high velocity load of 3¾ drams of powder with 1¼ ounces of No. 4 shot. The duck has to fly through a shot string which will print a 118 pellet pattern at that range. This works out an average of .17 pellets per square inch. With the new 1½ ounce Magnum loads the pattern will average close to .20 pellets per square inch. With the 1⅝ ounce 12 bore 3 inch Magnum load the average goes up to about .22 pellets per square inch. Now going to the Magnum 10 bore with a charge of 2 full ounces of shot boosts the average to around .27 pellets per square inch.

Now with a good average size duck occupying about 36 square inches of space, it is readily apparent the said duck is going to be whacked with a lot more pellets from the 2 ounce load than from the 1¼ ounce load. Considering further, it is well established that the killing power does not vary according to the number of pellets hitting but increases as the square of that number. So while in this case the 2 ounce load will plaster a quacker with a lot more killing power than the standard 1¼ ounce load, in either case you are going to have a very dead duck. The only practical difference I can see is that you're going to pick more shot out of your teeth with the 2 ounce Magnum load.



Now let's see what gives in the matter of extended pattern density, which means killing range. As has been shown, the standard 12 bore 70 per cent pattern will put 118 number 4 pellets into a 30 inch circle at 40 yards. This will make a duck dinner anytime. The new 1½ ounce load out of the same barrel will put the same number of #4 shot into the same circle at about 45 yards. The 1⅝ ounce load will do it at close to 48 yards. The 10 bore Magnum with the 2 ounce load will stretch it out to 52 yards.

Some years ago Western Cartridge Company conducted exhaustive tests to determine how many pellet hits of shot were required for consistent clean kills on ducks. They finally came up with the answer of five pellet hits of number 6 shot or larger. To complicate matters, with today's crimpless shells, many full choke guns, both standard and Magnum, are delivering closer to 80 per cent than 70 per cent patterns. Thus it would seem with these facts in mind and using No. 4 shot, the effective killing range of the standard high velocity load should be close to 50 yards. A 80 per cent 10 bore Magnum should kill ducks consistently at 66 to 67 yards and geese at full 70 yards. Even this is far short of any sane reason to waste ammo on a duck which is flying on instruments.

Going into shot sizes it seems to stack up this way. If you have a yen to bust a duck on the far horizon you must go to the large shot sizes. Number 6 shot has sufficient pellet energy, 1.21 foot pounds, for lethal penetration on a duck up to 55 yards. Number 5 shot retains enough pellet steam, 1.44 ft. pounds, to 64 yards but for longer range, number 4 shot will do the trick up to 74 yards with a remaining energy of 1.69 foot pounds. Number 2 shot can go out a full 97 yards with enough penetration to get into a duck's boiler room with 2.25 foot pounds pellet energy left.

These are only maximum shot ranges where there is penetration remaining for a kill. The real trick is to have enough pattern density remaining to get the required 4 or 5 pellet hits for a consistent clean kill. That is the only reason why any Magnum shell will handle larger shot sizes better than the standard shell, because it throws more of them.

For instance the 10 bore Magnum throws about as many number 4 shot as the regular high velocity throw sixes. But the joker is the shot density in any pattern is only one fourth as thick at 80 yards as it is at 40 yards and is twice as wide.

So far the Magnum looks good but before you rush right out and buy one, consider the other side of the picture. There may be a few super shots who can bust ducks at 65 to 75 yards with any degree of certainty but I have never seen one. In fact the percentage is woefully small that can dump ducks consistently at the 50 yard mark. It grows smaller still if the ducks are coming down a stiff breeze. Now what chance has the average hunter with maybe 3 or 4 duck hunts a year to acquire the skill to down those long shots consistently, especially with a four or five bird limit?

Look at it this way. A duck moving along at 40 miles per hour giving you a crossing shot at sixty yards would require a 12 foot lead, figuring shot flight time only. If he had a good breeze back of him and was doing sixty miles, the lead would jump to 18 feet. At 75 yards the lead would be about 24 feet. Now in addition to target speed and lead you have range, pellet drop, angles and wind effect. How many hunters will ever learn to point a gun that good today?

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Pennsylvania Official 1955 Open Seasons and Bag Limits

(Regulations apply for Hunting License Year, September 1, 1955-August 31, 1956)

Open season includes first and last dates listed, Sundays exeepted, for game. The openin hour for small game and other wild birds or animals on October 29 will be 9:00 A. M. Otherwise shooting hours daily are from 7:00 A. M. to 5:00 P. M., but from July 1 to September 30 inclu sive, 6:00 A. M. to 7:30 P. M., excepting the hours for the October archers' deer season which ar 6:00 A. M. to 5:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
UPLAND GAME (Small game possession limits below)	**Day**	**Season**	**First Day**	**Last Day**
Ruffed Grouse	2	8	Oct. 29	Nov. 26
Bobwhite Quail	4	12	Oct. 29	Nov. 26
Wild Turkeys	1	1	Oct. 29	Nov. 26
Ringneck Pheasants, males only	2	8	Oct. 29	Nov. 26
Rabbits, Cottontail	4	20	Oct. 29	Nov. 26
Squirrels, Gray, Black & Fox (combined)	6	24	Oct. 29	Nov. 26
Squirrels, Red (closed October 1 to 28 incl.)	Unlimited		All mos. (except Oct. 1-28	
Hares (Snowshoe Rabbits)	2	6	Jan. 2	Jan. 7, 195
Raccoons	Unlimited		Unprotected	
Woodchucks (Groundhogs)	Unlimited		Unprotected	
Grackles	Unlimited		Unprotected	
Bears, over one year old, by individual	1	1	Nov. 14	Nov. 26
Bears, as above, by hunting party of three or more	2	2	Nov. 14	Nov. 26
DEER: **Bow and Arrow Season**—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal (requires hunting license and Special Archery License), by individual	1	1	Oct. 10	Oct. 22
DEER: **Regular Season**—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, by individual			Nov. 28	Dec. 10
DEER: **Antlerless Season**—(requires hunting license and Antlerless Deer License), by individual			Dec. 12	Dec. 13

NO OPEN SEASON—Hungarian Partridges. Hen Pheasants, Sharp-tailed Grouse, Cub Bears, Elk Spike Bucks with antlers less than three inches long, and Otters.

FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected	
Minks	Unlimited		Nov. 5	Dec. 31, 195
Muskrats (traps only)	Unlimited		Dec. 3	Jan. 28, 195
Beavers (traps only) state-wide	4	4	Feb. 15	Mar. 5, 195

SPECIAL REGULATIONS

POSSESSION AND TRANSPORTATION LIMITS of legally-killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1955 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during Bow and Arrow Season, issued only by the Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued only by County Treasurers, at a fee of $1.15, and **valid only in the county for which issued.** Farm occupants permitted by law to hunt without a license may also hunt for antlerless deer during the Antlerless Season on the same land as for other game. See Digest issued with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a Nonresident prior to November 12, or after December 11, 1955.

BEAVERS—No trapping at Commission-posted dams. **Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only.** Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within 10 days after season,** and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers not to be placed, staked or set before 7:00 A. M. on the first day of the open seasons. The season indicated for Trapping closes at 12:00 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (July 1, 1955)

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PENNSYLVANIA

Game News

OVEMBER, 1955

TEN CENTS



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THE STORY BEHIND THE COVER

WE don't know which is the more surprised at the turn of events so wel portrayed by Ned Smith on this month's cover—the rabbit, the beagl or the hunter. But we are certain that the scene is one of the chief reason why the cottontail is the most sought after game animal in America. Cer tainly no other type of outdoor sport offers more pleasure and amusement

Big game of the small boy, the cottontail rabbit offers equal enjoyment t youngsters of all ages. And specialized sportsmen with pedigreed beagles ar not the only ones who set the pace in rabbit hunting. Many a man of lesse means, afield with a mongrel "houn' dawg" gains just as much from th music of the chase. It doesn't take a dog with a lot of speed to put up rabbit and keep them moving. A cottontail will seldom allow himself to be drive out of his home stamping grounds. There it knows every briar patch an hollow log, every brush pile and burrow. Only a little more than an acr of suitable shelter satisfies the average bunny.

Although a dog is not absolutely necessary to bagging the little brow hopper along autumn's game trails, no one can deny that canine assistanc can come in mighty handy. For the cottontail is a past master at halting doubling and changing their course to live yet another day. The startle look on the pursuer in the cover illustration is but small indication of th surprises the pursued has in his furry bag of tricks. So for those whom th cottontail has completely captivated, a good dog affords a better chase, fewe cripples, and more pure pleasure afield.

Of course, the better the dog, the better the hunting. And although man different kinds of dogs are used by many different kinds of hunters, thos who love beagle music are far and away in the majority. They like the in dustry with which the little hounds tackle the job at hand. No dog is mor gentle in handling, more intent when on a hot trail, or more courageou in taking its hunting hardships in stride.

So, "Tally-ho" and a salute to the most popular type of hunting found i the Keystone State as well as to the most popular canine found the countr over. Long may the golden fields of fall ring with their merry music; lon may kids from twelve to twelve score years find healthy, happy sport in pu suit of a big little cottontail.



HERE is a gift sure to be welcomed by any sportsman. A year of PENNSYLVANIA GAME NEWS. 12 big issues packed with worthwhile information on wildlife, helpful hunting hints, all the news of the game and facts from your Game Commission. Extend to your hunting friends greetings and good wishes a dozen times a year with a gift subscription to "Game News."

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PENNSYLVANIA
Game News

Published Monthly
by the
Pennsylvania Game Commission
Commonwealth of Pennsylvania
GEORGE M. LEADER, *Governor*

★

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PENNSYLVANIA GAME NEWS

Will Johns .....Editor
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By
Ned Smith

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Take Time To Be Safe

"In designating October 24th to 30th as HUNT SAFELY WEEK in Pennsylvania, I am mindful of the fact that hunting is a relatively safe sport. For over a million of our citizens the coming weeks will provide wholesome, healthy recreation as they pursue Pennsylvania's great bounty of wildlife.

"But for those few persons, both young and old, who are unmindful or forgetful of the simple rules of firearms safety, this week should hold special significance. I appeal to sportsmen, teachers and all others interested in making Pennsylvania a safer and more pleasant place in which to work and play to teach proper gun handling and safe hunting methods. The message which HUNT SAFELY WEEK can bring to all our people should center around how firearms accidents are caused and how they can be prevented.

"Studies of hunting accidents show clearly that the great majority of these mishaps can be avoided. Hunting accidents do not just happen—they are caused. A little more care, a little more knowledge, a little less greed are all that is necessary to reduce, perhaps eliminate entirely, the number of accidents in this age-old and honorable outdoor activity. Handle your gun carefully, point it in a safe direction at all times, and teach others to do the same. Protect yourself by wearing bright colored hunting clothing and make sure your arms and ammunition are in proper working condition. A second of carelessness may mean a lifetime of regret!

"Take time to make Pennsylvania a safe State for hunting!"

GEORGE M. LEADER, Governor
Commonwealth of Pennsylvania



Forests and Wildlife

By Roger M. Latham

FORESTS are of great significance in the production of wildlife for recreational purposes in Pennsylvania. Six of the nine major game species—deer, bears, snowshoe hares, squirrels, ruffed grouse, and wild turkeys—are almost entirely dependent upon forests and woodlots for survival. Many cottontail rabbits are also produced on forested land. Even the farm game species—the ring-necked pheasant, the bobwhite quail, and the cottontail—are partially dependent upon forest edges and woodlots for food and cover.

Because of this importance of forests to game, one of the primary requirements of wildlife research and wildlife management is a comprehensive understanding of the ecological principles involved in this relationship between animals and their environment. It is essential to know the effects of wooded cover in all of its stages of succession upon the various forms of wildlife inhabiting it. Likewise, it is essential to know the effects of these animals upon the forests, especially in terms of forest damage or marked changes in natural succession.

Generally speaking, forests exert a

ROGER M. LATHAM is Chief, Wildlife Research Division, Pennsylvania Game Commission. **This article is taken from a paper presented by the author at the 67th Annual Meeting of the Pennsylvania Forestry Association, April 27-28, 1954, at State College. It is reprinted here through the courtesy of "Pennsylvania Forests," official publication of the Association.**

far greater influence upon the animal life than the animals do upon the forests. The major part of our knowledge concerning this vegetational influence has come largely from the study of different successional stages of Pennsylvania forests. This lesson in ecology has been a very unusual and very forceful one. It is not likely to be repeated, because there is little chance that the State will ever again be clothed with virgin timber, at least so long as our civilization persists.

From scattered reports by various early explorers and pioneers, we have a reasonably good idea of the kind of game which inhabited the virgin forests. Evidently the wild turkey was the most abundant species, and such things as deer, grouse, and cottontails were relatively scarce. As the forests were cut in the late 1800's and early in the present century, the wild turkey was nearly exterminated in this State. The turkey relies largely upon mast crops such as acorns, chestnuts, beechnuts, and other hard fruits and nuts for sustenance. The new brush forests did not produce food in sufficient quantity to winter these large birds. For the same reason, squirrels suffered a great reduction in numbers. They not only lost their food, but their homes as well.

But these brush forests were ideal for deer, grouse, cottontails, and hares because these game animals subsist primarily upon browse. The first twenty-five years of this century were the "golden age" for all four. Millions of grouse lived and died without ever having a shot fired at them. The deer population doubled again and again during this period, and snowshoes and cottontails were found in abundance throughout their respective natural ranges.

But as this brush forest developed to the pole stage, wildlife managers began to see many obvious effects of this change. Because much of the

MOST ABUNDANT SPECIES of wildlife in early American forests was the wild turkey. Relying largely upon mast crops such as acorns, chestnuts, beechnuts and other hard fruits and nuts, this magnificent game bird found ideal conditions in virgin forests.

PGC Photo by Batcheler



browse had now grown out of reach and a large part of the ground cover had been eliminated by shading and drying under the tight canopy, there was almost suddenly a pronounced scarcity of wildlife food in our forested areas. This was exaggerated and aggravated by the hundreds of thousands of starving game animals, particularly deer, which were forced to consume many plants which were not a part of their normal diet, including farm crops.

With this shortage of natural food, both quantitatively and qualitatively, the forest wildlife began to show many signs of degeneration. Certain abnormalities in the deer began to appear. A reduced body size and reduced antler size were especially evident. Where a few years before, many mature bucks would hog-dress over two hundred pounds, now the average barely exceeded one hundred pounds. Fawns decreased in size from near a hundred pounds hog-dressed during the hunting season, to as little as thirty to forty pounds.

The large ten and twelve point trophy antlers practically disappeared over most of the over-browsed areas, and "spike" bucks became more and more common. Experiments and observation proved that a yearling buck could produce an eight to twelve point rack the first time it grew antlers if well fed. When poorly nourished, it would rarely grow more than tiny spikes the first year, and would perhaps produce nothing more than spikes for four or five years in succession.

Even more important, reproductive abnormalities began to appear. Properly nourished adult does should give birth to twin fawns on the average, and a large percentage of yearling does should produce at least a single fawn. But under the stress of malnutrition, older does will average less than one fawn yearly, and few if any yearlings will reproduce. This fact has the greatest significance in deer management because it means that half the number of well-fed does will produce as many fawns, and as much hunting, as twice that many poorly fed females. This fact also has tremendous significance in preventing excessive forest and crop damage.

Other unfortunate effects of this overpopulation of deer and the reduced food supply were disease and winter starvation. Disease has not been an alarming reduction factor to date, but the presence of scattered outbreaks of various lethal diseases and parasites constitute a constant threat to the future of the herd. An epidemic could sweep through the over-crowded areas like wildfire and eliminate a large part of the deer population.

Winter starvation has taken its toll annually for the past twenty-five years, but is especially severe during hard winters. Many thousands of animals die every time that deep snow lays on the ground for any extended period of time. Even today, six weeks of "real winter" could eliminate fifty per cent or more of the deer in certain northern counties.

The deer were not the only game animals to suffer. The pole stage "deserts" created by the deer had little to offer grouse, cottontails, and snowshoe hares. Beside the scarcity of food, particularly for the two kinds of rabbits, there was practically no ground cover left for protection against predators and weather. The bare forest floor offered no concealment for these animals against hawks, owls, and other predatory animals. Thus, their numbers collectively dropped from the millions to a comparatively few thousands in a matter of thirty years or less.

The food shortage in the forests caused other indirect complications. The economic loss of farm crops to deer has been tremendous. Even though our deer population at the present time is probably no more than half as large as it was in the



PGC Photo by Cady

POLE STAGE FORESTS created by deer become living deserts for wildlife. With little food and no ground cover, other species like grouse, rabbits, and snowshoe hares rapidly disappear.

1930's, crop damage from this source is still surprisingly high. A study recently completed at the Pennsylvania State University showed that measured deer damage to crops in Potter County alone was $142,000. In Monroe County it amounted to $46,000. These are typical of several "big woods" counties in the State, and the total damage is undoubtedly a very serious matter.

This transition in forest growth continues, and the wildlife management problems just enumerated still exist to a greater or lesser extent. The original lumbering operations in the State began largely in the southern part and progressed northward, northwestward, and northeastward. Thus, the changes in fauna and the related problems have followed this lumbering progression very closely. This is best illustrated by a most recent and most striking response of a wildlife species to successional changes.

The wild turkey which was once almost extirpated by the lumbering and the destruction of the virgin forests, regained a foothold first in the southern counties where the timber was the first to approach maturity. It was not until twenty to thirty years later that the turkey was able to invade the northern counties and prosper. Evidently this repopulation of the northern half of the State coincided with the aging of the forest to the mast-producing stage. Today there are many more wild turkeys in the northern hardwood forests than found in the oak-pine forests of the southern half of the State.

Now that we. have seen some of the effects of forests on wildlife, let us examine the effects of certain wildlife on forests. Most foresters are well aware of the destruction of tree seeds by mice, squirrels, and other rodents; the cutting of seedlings and stump sprouts by rabbits; the eating of bark and branches by porcupine; and the felling of trees by beavers. In Pennsylvania, we have had, and still have, another destructive force

which has materially affected the forests and forest management in the State. This is the white-tailed deer again.

Studies by Forestry-Wildlife graduate students completed within the past two years gave an indication of the extent of this damage. In areas of heavy deer populations (one deer to 35 acres or less), the appraised damage varied from $4.23 to $23.19 per acre. The effect of the browsing on the length of the rotation period, the number of stems per acre, and the change in species composition were all considered in the damage appraisals. The report concluded that it would not be practical to depend upon natural reproduction, or supplemental plantings, for the establishment of fully stocked forests following cutting in areas of high deer populations.

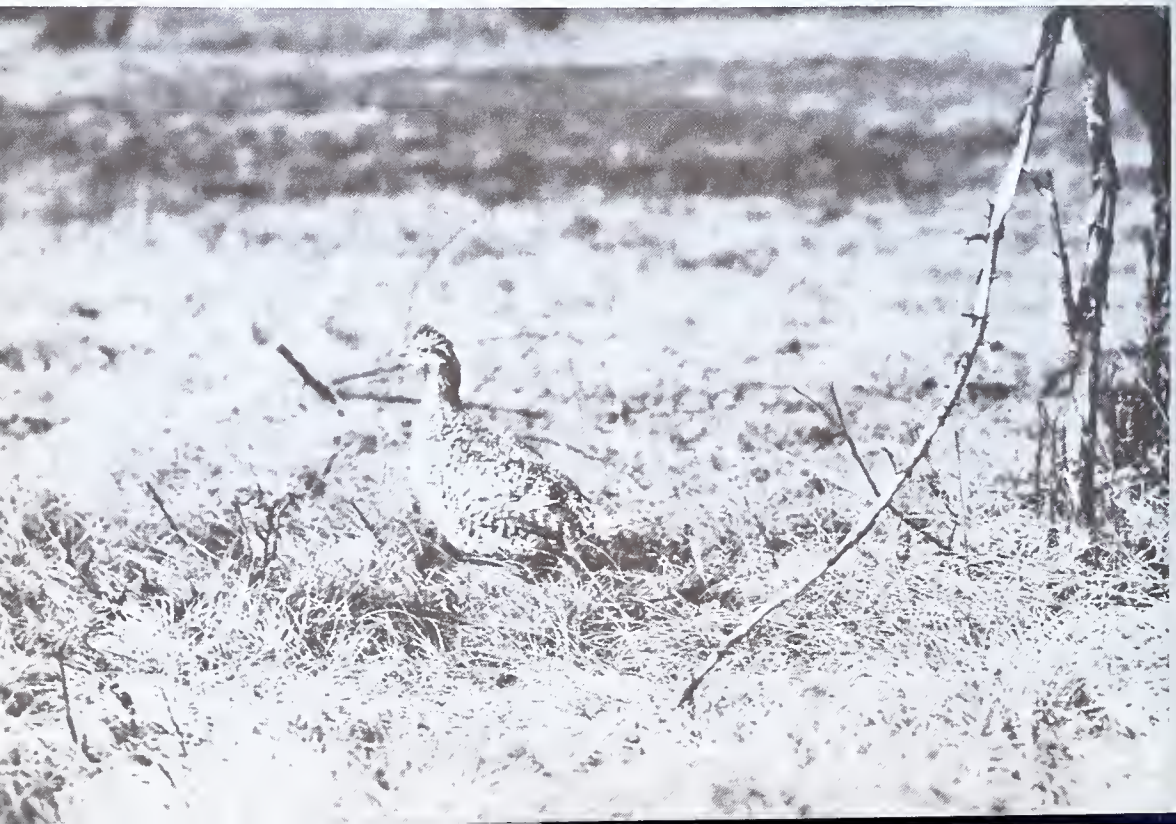
A similar study of coniferous and hardwood plantings showed losses from deer browsing to be almost complete in many sections of the State. This has represented a loss of many hundreds of thousands of dollars as well.

The loss of natural reproduction following cuttings and burns has been so severe in several northern counties, that large prairie-like tracts have appeared in many places. These areas of grass, bracken fern, and scattered aspen, maple, and black cherry, will remain permanently open until the deer herd is reduced to a remnant of its former abundance. These forest openings were sufficiently large and contiguous to encourage the Game Commission to stock wild-trapped sharp-tailed grouse in two of these counties. This is a striking illustration of the effects of too many deer on Pennsylvania forests.

The most regrettable part about this situation from the wildlife manager's viewpoint is that while the deer were damaging the forests they were also destroying their own habitat. By over-browsing their natural

PENNSYLVANIA PRAIRIE type tracts in several northern counties have followed deer damage to natural reproduction. These forest openings were sufficiently large and contiguous to encourage Game Commission to stock sharp-tailed grouse.

PGC Photo by Batcheler





PGC Photo by Batcheler

FORESTS BECOME MORE IMPORTANT to game management as time goes on. Many hunters who used to hunt agricultural land for farm game now spend more time in the tall timber hunting turkeys and other forest game. Veteran turkey hunter Sid Port, Petersburg, is typical of the trend in field sport.

food, the total carrying capacity of the forests for deer and other valuable wildlife has been reduced well below one-half. Therefore, the forester and the wildlife manager are on mutual ground to a large extent in facing the future.

The importance of forests to game management becomes more and more obvious to the Game Commission as time goes on. Each year a tremendous acreage of agricultural land is lost to public hunting. A part of this results from the endless construction of new buildings and new roads, but an even greater loss is suffered from the posting of private lands. As the sale of hunting licenses goes up and up, and ever-increasing hunting pressure is exerted upon the remaining unposted land. This additional pressure increases the tendency of landowners to close their lands to hunting, and every acre thus lost adds just that much more pressure on the shrinking acres of land still open to public hunting. We anticipate that this vicious cycle will eventually force a large segment of our hunters into the forests for outdoor recreation.

As populations have grown in this country, it has been necessary to increase the per-acre crop yields to feed the additional millions. Similarly, as the number of hunters increases, the Game Commission has been obligated to produce ever greater game crops for recreation on an ever-shrinking acreage. Because much of our agricultural land will be lost to public hunting, the Commission will be forced to concentrate its efforts on forest land, especially that which is publically owned.

And this tremendous task will need to be a cooperative one. There is no question but that recreational demands on our forests will continue to grow, and the hunter, fisherman, camper, and picnicker will demand that all national and state forests be managed intensively on a multiple-use basis. Thus, public opinion is going to force the game and fish

managers and foresters into the same camp.

Mother Nature will also be an ally in this effort. As Penn's Woods mature and logging for timber and cutting for pulp again becomes "big business," this will undoubtedly be accomplished on a sustained yield basis. Operations will be scattered throughout the State, and only a small percentage of the total acreage will be cut in any one year. This creation of an uneven-aged forest will automatically eliminate many of the problems of the past half century. Forest management of this kind will prevent the sudden growth of excessive game populations and the destructive effects of these animals to the State's economy. At the same time, an uneven-aged forest will prevent the disheartening "crash" of these game populations when the food disappears. In other words, in the future we can expect our game supplies to be relatively stable, and not to exhibit the violent fluctuations in numbers we have recently experienced. This should promote better relations between the wildlife managers and the sportsmen, and should give the wildlife manager considerably more peace of mind.

Thus, it appears that sound forestry practices are the answer to most of our wildlife management problems. There will undoubtedly be many areas capable of producing excellent timber crops, where the land should be reserved primarily for the production of timber. And there will be other areas where forest management may be a poor investment; these could be used almost exclusively for the production of game for recreational purposes. But happily, most of the land will fall in between, where food, timber and excellent game crops can be produced on the same ground, without sacrificing either.

It is the wildlife manager's obligation to see that game crops are harvested scientifically so that they do not become unduly destructive to forests and farm crops. It is the forester's obligation to recognize the values of recreation, and manage his forests to produce an allowable amount of game and fish.

In the words of Dr. Chapman of the Yale School of Forestry: "With the proper coordination of forest management, including the provision for an abundant supply of preferred foods and the prevention of ruinous overpopulation by a regulated kill, it will be possible to raise, not the maximum of wood alone, nor yet the greatest number of game animals, but the maximum crops of both trees and game taken as a whole, on areas on which no one interest is allowed to dominate and destroy the rights and welfare of all others, but which are managed for the greatest good of all, in perpetuity."

This, I believe, signifies the common ground upon which we stand.

Low-Cost Topographic Maps Available To Public

A total of more than 17,000 topographic maps are the result of systematic studies published by the Geological Survey since its establishment in 1879. Copies of published quadrangle maps can be obtained, mostly at 20 cents each, by addressing the Geological Survey, Washington 25, D. C., or for areas west of the Mississippi, the USGS, Denver Federal Center, Denver, Colo. Index maps of individual States showing areas already mapped are available free upon request.



The Second Nail

By Paul A. Matthews

WHEN the first slanted sheets of rain became visible against the mountain on the far side of the valley, Ben Holcom started for the car. But Tippie, the eager and willing basset, hung to the brush lot until he was sure that Ben was leaving. Then, after one backward glance, he yelped sharply and bounded through the frost-brittled golden rod, his eyes on the brown clad figure ahead of him.

The hunter hunched his head deep between his shoulders, pulling the duck collar high when the November-chilled rain overtook him short of his goal. There was a good mile, and several sodden timothy fields between him and the car. Rather than get his back soaked by the half-freezing pellets, Ben and the hound sought refuge under the gnarled branches of a sugar maple that Ben remembered as a big tree even when he was a boy.

True, the branches dripped steadily, and within a few short minutes, rivulets of water coursed their way from the top most twigs—down the ever-deepening crevices etched in the bark, and finally soaked into the ground where it would soon freeze to a flinty hardness. Ben unhooked the inner flap that made his game pocket, and pulling it beneath him, he had a dry place to sit. The basset, discovering the dryness of the duck coat, tucked himself between Ben's knees with just the black tip of his nose exposed to the elements.

"This is about the time," Ben thought, "that the Old Man would

have stoked up his corn cob and watched it rain through the clouds of blue smoke."

Always, on every hunting excursion, there was a memory, or some little idea or saying that brought Ben face to face with the ideals that the Old Man had set up for him as a boy. Maybe it was the way he had always emptied his gun before setting it down, or maybe it was the way he passed up a shot at a rabbit because the dog was too close or some other hunter was in the line of fire. The Old Man thought nothing of going home with an empty game pocket. "I have seen this state," he often remarked, "when pheasants were unknown, beaver were only in books, and when a man had to trail a deer for three or more days for one shot at it. I like to hunt, not slaughter."

Ben caught himself laughing aloud as he relived a few of the more vivid moments with the Old Man. He had been an odd old fellow with fixed ideas, but somehow he had the right answers. More than that, he knew how to tell them to others without a lot of noisy preaching. Ben leaned his head against the solid trunk of the tree, and looking upward at the weather-rotted board that hung by a single, rusty nail just head high from the ground, he could visualize the Old Man talking to Anson Kenney the day Anson nailed the board there.

It was about the middle of October, the beginning of Indian summer that year, and the Old Man and Ben were on a pre-season scouting trip. They had crossed the pasture lot that Ben had just left. Along the line fence bordering Kinney's farm, there was Anson, standing in the back-end of his pick up truck nailing the board to the maple. He had the first nail driven and was bending over to pick up a second when the Old Man spoke.

"What are you figuring on Ans?"

The pointed reply came unhesitatingly. "Gonna post this year. No more gadden about on my place for these town hunters."

"Hmmm." The Old Man worried his dying pipe, and finally relighted it. "Going to post, huh?"

"Yep. Hate to do it, but I just can't afford to be fixin' fences, chasin' stock that's been let out, an' keepin' the kids around the house so they won't get shot up. I feed the game the year around anyhow."

"Yes, I guess you do Ans," the Old Man admitted. "You feed it good too, leavin' a little stand of buckwheat along the woods where it's handy for the deer. What's the matter, you had a little trouble lately?"

"Well, yes," he said getting down off the truck. "One night last week just as I was gettin' asleep, I heard a couple of shots. I looked out the window and see a pair of head lights pull out of my orchard and right away I know a couple of jacklighters have killed one of my young stock thinkin' it was a deer. I can't have that goin' on."

"I guess not! Cows are your bread an' butter."

Anson stood a little straighter. "All of us farmers along the valley have got organized and I'm going to furnish the posters. Every one of us is going to post, all the way from Alley's road to Hickory run. We're going to sew this valley up for ourselves, and naturally, us neighbors can hunt on one another."

"That's a good idea, Anson, a good idea."

Anson Kinney surveyed the Old Man and Ben with a critical eye. He never expected to have the Old Man agree on the idea of posting. Of course the Old Man didn't own a lot of property and he didn't farm either. In fact, he seemed to make his living off other people's property by trapping in the winter, and searching out beds of wild ginseng and

ginger in the summer. The Old Man didn't require a lot of living.

"You really think it's a good idea to post, then?" Anson queried.

"I didn't say 'post', Ans, but it's a good idea to organize." For a few silent moments the smoke drifted upward between the two men, and then the Old Man went on. "Remember when you was a kid like Ben here, and we hunted from one end of this valley to the other without a word from anyone?"

"Many an hour we spent at it," Anson said grinning. He pointed a bony finger at Ben. "When I was your age, young feller, I used my Dad's old double barreled muzzle loader. It was hefty but it sure would shoot."

"We killed a lot of game and had a lot of fun, Ans, even if I was twenty years older than you."

Anson tapped the bottom of the truck thoughtfully. "We had a right to hunt here. We were taught to respect other people's property, just as though it was our own."



Ben saw the Old Man point his corn cob, and he waited in excited anticipation as the stem wavered in Anson's direction.

"Anson, right there is the whole thing in a nutshell. Respect, not posters. Now mind you, I'm not saying you're wrong, because, really you've got a lot of right to be posting. But did you ever see a game law violater pay any attention to a poster?" The Old Man blew on the embers in his pipe and then went on. "Now let me ask you this, Ans, how many of you farmers are there organized?"

"Probably twelve or fourteen of us altogether."

"And how many of you buy a huntin' license each year?"

"Well, you know we can hunt on our own or adjoining property without a license, so only a few of us are licensed."

"Then it's the town man payin' for his license that pays for game propagation and protection."

"Maybe they pay a little more. A lot of the farmers buy a license so they can go down on the mountain deer hunting."

"Yes, but the idea is that there is probably twice as many town hunters as farmer hunters, and if they are deprived of their hunting, they won't buy any license and the commission will loose two thirds of its income that would ordinarily go towards putting more ringnecks on *your* farm and towards protecting you and the deer you feed from illegal jacklighters. It's a touchy problem, Ans, and a few rotten eggs can spoil an awful lot of territory, but we've got to look at it from a broad point of view. Your organizing is a good idea, and posting is a good idea when it's confined to fresh seeded fields, or new orchards, or stands of seedling trees. Put your posters where it's necessary, and you'll get hunters to respect them. Give them a place to park their car and then you can keep

track of who's hunting on your land."

Anson rubbed his head through the clothe hat. "You got a pretty good point there, but—, well, things aren't like they used to be. There's more hunters today than there ever was before." He smiled an end to the discussion and stepped up into the truck again. "Guess I better drive that other nail and get moving. I've got a lot of signs to put up."

The Old Man ignored Anson's remark about the nail. His wiry hand felt for a place to rest on Ben's shoulder, and he again pointed the pipe stem at Anson Kinney as the farmer looked down from the truck.

"Yep, Ans. There's a lot more hunters today than when you 'an' I was young; fellows that don't remember and realize that at one time our game was about gone. They figure that this game just growed here by itself and that it will always be here. But it won't unless somebody teaches them that it's like a crop that has to be harvested within its season each year or else it chokes itself out. We've got special farmers for this crop, Ans, and then we let them down because we don't report the violators. We've got to thin out the bad eggs, and encourage the good ones or else in a few years, kids like Ben here aren't going to know what it means to go hunting with Dad. It's going to take a lot of teachin' and a lot of talkin' to show that the game is public but the land is private, and we both have to give and take. Of course, we can always do it the easy way and post everything. Then we don't have any teaching to do and soon, we won't even have to worry about hunting. There won't be any."

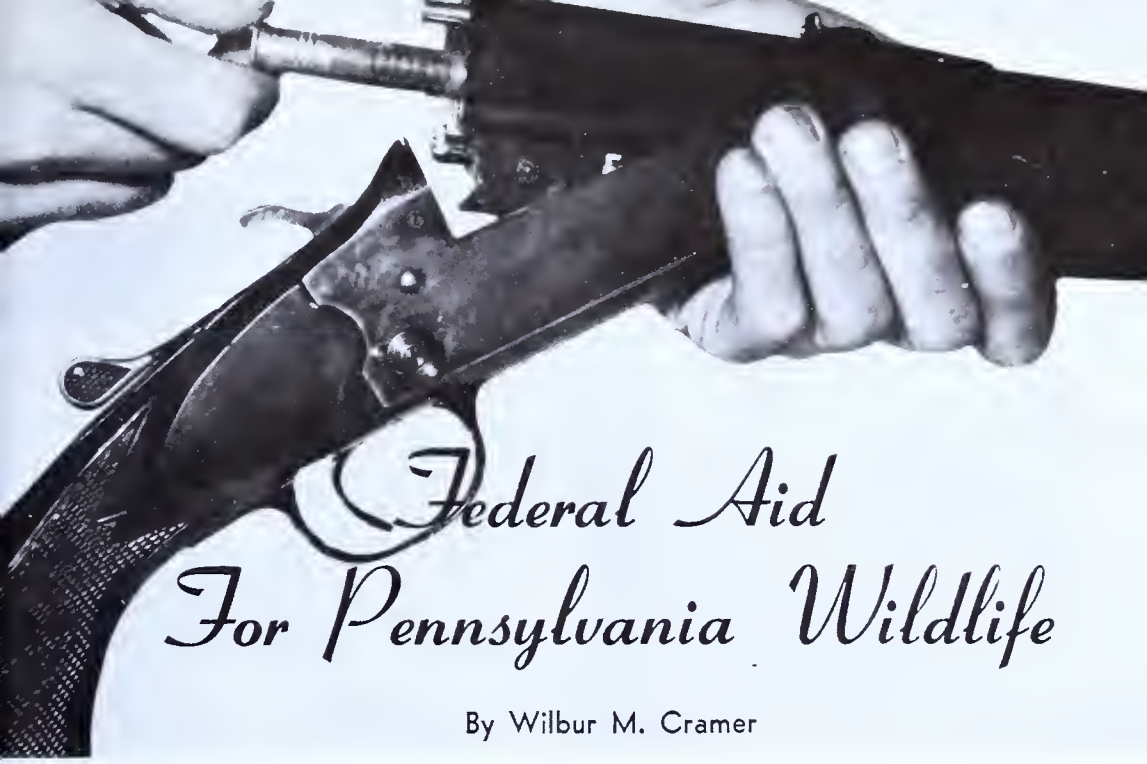
Through the years, Ben never forgot the Old Man's speech, nor the way Anson Kinney stared down at him for a long time, and then without another word, got in the truck and drove off. The board still hung to the tree by its one rusty nail. And as the rain slackened, Ben left the shelter thinking that Ans Kinney never did get around to drive the second nail.

New Handbook For Teaching Conservation Now Available

A new book "Handbook For Teaching Conservation and Resource-use" has just been published by the National Association of Biology Teachers. Prepared by 200 teachers from thirty states, the new 450-page volume is amply illustrated and explains how teachers have incorporated conservation teaching into their schools. The "How To Do It" stories will help other teachers and youth leaders to see: How To Get Started, Where To Get Help, What To Do In The Classroom, How To Use the School Grounds and the Community, and how to develop such projects as school forests, school gardens, school camps, wildlife sanctuaries, outdoor laboratories, nature trails and museums.

Material for the Handbook has been collected by the National Conservation Committee of the National Association of Biology Teachers since 1951 under the direction of Dr. Richard L. Weaver of the University of Michigan. The four-year project was financed by a grant from the American Nature Association.

Copies of this new book are available through the office of the Project Leader, P. O. Box 2073, Ann Arbor, Michigan at a cost of $4.00. A twenty percent discount is granted to schools.



Federal Aid For Pennsylvania Wildlife

By Wilbur M. Cramer

DURING the 1954-55 fiscal years, the Pennsylvania Game Commission spent $509,612.28 on Federal Aid projects and was reimbursed for 75 percent of this amount from the Pittman-Robertson Fund. This Federal fund is financed from an 11 percent excise tax on firearms and ammunition. The amount apportioned a state each year is dependent on (1) the ratio of hunting licenses sold in each state as compared with the total number of licenses sold in all the states; and (2) on the size of the state in relation to the entire area of the United States. In Pennsylvania this allotment is shared by the Game Commission's Land Utilization Division and Wildlife Research Division. Of the total amount allotted to the Keystone State under terms of the Federal Aid in Wildlife Restoration Program last year, $445,199.32 was spent on an approved wildlife development program (food and cover work). This, however, was only a part of the total expenditure by the Commission for land management work.

The Annual Report on the accomplishments in wildlife restoration throughout Pennsylvania for the federal fiscal year July 1, 1954 to June 30, 1955 has been compiled. It covers wildlife habitat improvement work on State Game Lands, Cooperative Farm Game Projects, the Allegheny National Forest, the Loyalhanna and Conemaugh Flood Control Reservoirs and on Rabbit Farms and other areas leased by the Commission. These expenses included an outlay for per diem labor, seedlings, seed, lime, fertilizer and other services and materials supplied through this cooperative federal-state program.

Some of the activities on Game Commission lands, Federal lands or leased areas, with the exception of Cooperative Farm-Game Projects, were as follows:

181 Food Strips, covering 247 acres, were cleared.

WILBUR M. CRAMER has served the Game Commission for more than 40 years in numerous clerical positions, as Field Division Supervisor, Superintendent of the Conservation School and Assistant to the Executive Director. Since June, 1954 he has been Coordinator of Pittman-Robertson Projects in Pennsylvania.

1,493 Food Strips, covering 2,518 acres, were planted in corn, soybeans, oats, buckwheat, wheat, rye, etc.

966 acres of Food Strips were planted to clovers, grasses, etc.

In addition, other activities were conducted on clover, birdsfoot trefoil or grass plots to improve food and cover sites as follows:

Food Strips Mowed	4,291 acres
Food Strips Limed	1,176 acres
Food Strips Fertilized	908 acres

It is often more practical to have farmers plant certain areas on some State Game Lands on a share-crop basis than for the Commission to farm these fields. The Commission receives 25 to 30 percent of these crops. Results of this share-cropping last year are reported as follows:

379 fields, covering 1,153 acres, were planted by share-crop farmers.

80 plots, covering 261 acres, were seeded to clovers.

29 acres were left in standing grain for wildlife; the Commission's share of harvested grains was 8,094 bushels of miscellaneous grains and 10 bushels of timothy seed.

The Commission is interested in clearing land and planting food plots in accordance with proper soil conservation practices. Contours were established on 124 acres, diversion ditches established benefited 33 acres and fields were bedded that benefited 8 acres.

Tree, shrub and vine seedlings and transplants were planted adjacent to food strips, and on other suitable areas, in the following numbers:

Evergreens	170,500
Other Seedlings	700,881
Transplants	6,490
Lespedeza	3,000
Multiflora Rose	16,000

These seedlings were also used to make block or clump plantings on 330 acres and to plant hedge rows totaling 106,990 linear feet, with an average width of 15 feet, and 30,750 linear feet of borders with an average width of 28 feet.

There are many old apple orchards on abandoned farms that are now a part of State Game Lands. Also, when Pennsylvania's forests were lumbered off, timbermen threw apple cores around through the woods as they ate their lunches. These produced wild apple trees. As rapidly as these and other fruit-bearing trees and shrubs are located, every effort is made to have them produce more and better fruit for wildlife. Many of them have little chance to grow and fruit properly because of the competitive growth all around them and the consequent lack of sunlight. Sometimes it is necessary to release and prune, or graft or fertilize, these trees. This type of work was done as follows:

Fruit Trees Released	10,302
Shrubs Released	3,807
Fruit Trees Pruned	7,643
Multiflora Rose Pruned	3,065
Regel Privet Pruned	2,031
Shurbs Fertilized	3,000

At other places it is desirable to cut borders along woodlands, around food plots, or along roads. This lets in the sunlight and produces a copious growth of shrubs, briers, etc., as food for many kinds of game as well as nesting cover for wild turkeys and ruffed grouse. Raspberries, blackberries, honeysuckle, dogwood, sumac, witchhazel, bittersweet, pokeberry, chokecherry, Virginia creeper, grapevines and various kinds of Viburnums are some of the plants that grow profusely in border cuttings. Woodland border cuttings with an average width of 46 feet were cut on 438,956 linear feet, for a total area of 470 acres. Other forest thinnings, cuttings and bulldozer pushovers were made on 3,544 acres. Wherever possible, timber or pulpwood sales were made from these cuttings.

Waterfowl management is gradually assuming a place of greater importance in the overall wildlife restoration program in Pennsylvania. Three small marsh impoundments totaling 20 acres of water on State Game Lands No. 28, Elk County, were completed this past year, as well



Photo-Graphic Arts Photo

CONNEAUT MARSH IMPOUNDMENT on State Game Lands No. 213, Crawford County, was completed in September, 1954. It is one of the best natural duck food areas in the state.

as two marsh ponds totaling 20.5 acres of water on the Allegheny National Forest. Another impoundment of 12 acres of water on the Allegheny National Forest in Forest County was about one-third completed.

Sites were surveyed and plans prepared and approved for 12 marsh ponds, dams and potholes totaling about 150 acres of water on State Game Lands in Clearfield, Crawford and Warren Counties and the Allegheny National Forest. Thirty-eight woodduck nesting boxes were constructed and erected at suitable locations.

In addition, the United States Fish and Wildlife Service approved FA Pennsylvania Project W-55-D-1 on May 11, 1954, known as the Conneaut Marsh Impoundment on State Game Lands No. 213 in Vernon and Greenwood townships, Crawford County. This project was completed September 29, 1954. It was necessary to raise and resurface approximately 2,000 feet of highway by the State Department of Highways. This acted as an embankment for retaining the water. The concrete spillway and regulating gates were constructed by contract. Federal funds amounting to $18,135.94 (75% of the total cost) were received for this particular project. The area impounds 550 acres of water with a shoreline of about six and one-half miles. It is one of the best natural duck food areas in the state. Besides furnishing good wild waterfowl hunting for many sportsmen, it probably will help to relieve the hunting pressure on the Pymatuning Reservoir and should also be a trapper's "paradise" as well as supply excellent upland small game hunting around the borders.

Farm-Game Projects were given their share of attention through work done and money spent on continued development of these leased lands for small game hunting. Seedlings were distributed to Farm-Game Coopera-



PGC Photo by Johns

OVER A MILLION SEEDLINGS were shipped from the Commission's Howard Nursery last year. It is planned that all future seedling requirements of the Commission will be raised at this location.

tors for planting as follows:

Conifers	853,435
Multiflora Rose	395,290
Chestnut	1,305
Black Locust	1,000
Other Species	73,780
Total	1,324,810

In addition, seedlings were planted by personnel of the Game Commission on Farm-Game lands as follows:

Conifers	22,100
Multiflora Rose	81,100
Other Species	9,850
Total	113,050

The grand total of all seedlings planted on Farm Game Projects was 1,437,860.

Sometimes it is desirable to purchase food strips of corn or small grains from the cooperators to leave standing as game food. Strips of hay left unmowed are also purchased to furnish nesting cover for ringneck pheasants and thus prevent nest destruction by mowing. During the past year, 469 of these strips (covering 111 acres) were purchased from cooperators. Employees of the Game Commission also planted 37 food strips (totalling 16 acres) on this leased land.

Thirty-six prospective farm pond sites were investigated by Commission personnel. Twenty-seven of these were found to be suitable and were recommended for development. Twenty-seven farm ponds (including some recommended the previous year) were completed. Woodland management was recommended to farmers by the Commission personnel on 102 acres.

One of the most effective means of supplying food and cover on Farm-Game units, and in many instances the only program possible, is the cutting of woodland borders with the permission of the farmers. As on Game Lands, these cuttings soon produce a fine growth of shrubs, briers, etc., especially if cut on the south side of the woods. The farmer

is then able to grow good crops up the edge of this low vegetation instead of having poor crops on the last 25 to 30 feet of the field shaded by tall trees. The farmer is also able to salvage firewood, logs for fence posts, or saw timber if he so wishes. Some farmers prefer to have a suitable edge seeded to sericea lespedeza to give them a place to turn their machinery at the end of a field instead of raising crops close to the new growth.

Wildlife border work on Farm-Game Projects was done as follows:

Linear feet planted 12,850—Average width 15 feet—4 Acres
Linear feet cut 254,286—Average width 30 feet—172 Acres
Linear feet seeded 2,350—2 Acres

There were various miscellaneous things done on the Farm-Game Projects which are a part of the general maintenance, as follows:

Multiflora Rose limited—5,000 feet.
Food strips mowed—20 acres.
Maintaining 1,266 small game refuges, totaling 11,366 acres.
Posting signs on 10,000 safety zones and dismantling these signs following the hunting season.

A study is constantly being made to determine the proper wildlife practices to follow on Game Lands and to provide surveys and maps necessary for such management work. The land use, and food and cover project, surveys and maps were completed for five State Game Lands during the year, while the food and cover project survey of another Game Land is in progress.

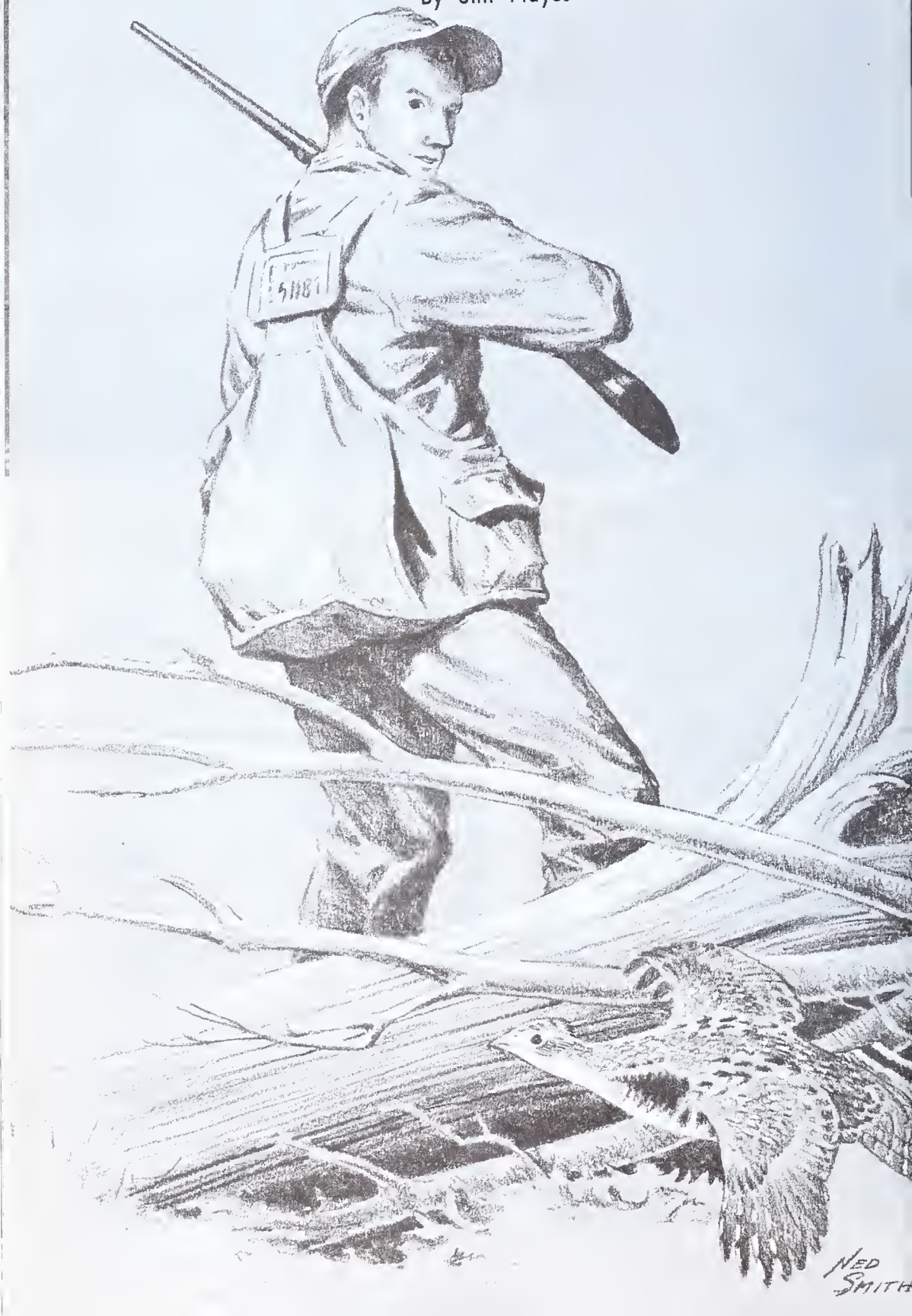
The Howard Nursery, comprising 76 acres, near Howard, Centre County, has been secured under a lease with the United States Soil Conservation Service of the Department of Agriculture. The Department of Forests and Waters formerly held this lease but discontinued operations at the end of 1953. During the past spring 1,150,450 shrub seedlings raised at this nursery were packed and shipped to Commission personnel and to sportsmen and other groups. The Howard Nursery personnel also transported 611,050 conifer and shrub seedlings from surplus soil conservation stock at another nursery and 79,125 shrub seedlings from a small nursery on State Game Lands for distribution to the field, making a grand total of 1,840,625 conifer and shrub seedlings distributed from the Howard Nursery. On the basis of a recent inventory, approximately 3,000,000 evergreen and shrub seedlings now being grown at the nursery will be available for distribution during the spring of 1956. Plantings are made annually to assure stock for succeeding years; in fact, it is planned that all future seedling requirements of the Commission will be raised at this location.

The P-R Program is a long-range one. The Commission expects to receive during the present Federal fiscal year approximately the same amount of P-R funds as were received last year. It is making every effort to take good advantage of the cooperative help extended through the Federal Aid in Wildlife Restoration Program, and will continue to make these dollars reach as far as possible to supply good hunting for Pennsylvania sportsmen.



Seed

By Jim Hayes



THE last day was cold and blustery. The game, what was left of it, sat tight. In the afternoon we went into the pines after birds. We hunted an hour before the dog picked up a scent. He followed it into a clump of laurel. Thrrrrr! Thrrrr! Two grouse went out. I swung on the nearest bird. As he topped his climb I nailed him—clean kill.

The second bird went down in a birch thicket. We started in slow. The dog worked ahead of me. We'd gone about thirty yards when I glimpsed something. It was the grouse. Crouched motionless in dry leaves. Waiting for me to pass.

Smart bird, I figured. She'd sat tight after landing. Left no scent for the dog to pick up. Now she was waiting until I passed to thunder out behind me. Well, we'd had a good season. The hound-dog and I had been pretty lucky. We'd let this one go for next season. Make good seed for next year's grouse hunting.

I went on as if I hadn't seen the bird. Sure enough, I was hardly past when she burst up. I spun around, gun to my shoulder. It was an easy straightaway shot. The kind you rarely get on grouse. But I didn't shoot. Grinning, I broke the shotgun, dropped the shells in my pocket. The dog looked at me, his head cocked to one side. But I think he understood.

We had found this place in midseason. About three hundred acres in abandoned orchards, overgrown fields, and timbered-over woodlots. There were a few stands of pine, plenty of laurel, and lots of second growth.

Actually, it was just a center section in a much larger expanse of land, about two miles in. To others it probably looked no different from the surrounding fields and hills. But when I first came upon it that day in November it held a charm and mystery that only unexplored hunting territory can have.

Golden fields sloped down to autumn hillsides with color. Frost-touched leaves, crisp red and gold, rustled in the morning breeze. The drumming of grouse was heard from the wildgrape thickets. Each new fencerow and birch-silvered woodlot looked better than the last.

There were no ringnecks. It was just fair for squirrel. But rabbits were plentiful. And the place was loaded with grouse. Grouse sailing out from railfences. Zig-zagging away through birch and alder. Thundering up in the pines.

I'll never forget that first bird. The dog nosed him out from a pile of logs. He went out low, a brown flurry skimming the weedtops. I swung on him and let go. The gunstock slammed into my shoulder. The grouse cartwheeled into dry grass. A puff of feathers drifted on the air.

Later, in a briar-tangled hollow, the dog jumped a rabbit. He picked up the scent. His tail beat furiously. He ran ten yards, paused, and raised his head to bay. He brought it up from the depths of his hound-dog soul, a joyous howl that kept rising and broadening until it seemed to fill the whole hollow. He kept that up—running and pausing to bay, sometimes breaking out in excited running yelps—until the rabbit circled back to where I was waiting with the gun.

At first we had the place to ourselves. Just the hound-dog and myself—and the rabbits and grouse. Toward late season we began meeting a few other hunters. Not many. You might meet five or six in a day's hunt. But it doesn't take an army of hunters to shoot up three hundred acres. And by the last day this place had been well shot up. All we put out were the two grouse. The one I'd shot, and the one we left for seed. But like I say, we'd had a good year.

Anyway, after I put the shotgun on the rack, I didn't figure to see



this hunting place again until next season. But late in January, anxious to give the dog a run, and attracted by the blue sky of a snowy Saturday, we went back for a walk.

The late afternoon sun was slanting across a white and frozen world as we started cross fields and through the woods to the railfence where the hunting place begins. It seemed strange going in without the weight of the gun on my arm. But there was something stranger, some grim emptiness that had taken over in the woods and fields. Icy winds rattled the brittle branches at the tops of black, naked trees. Gusts of ground wind sent eddies of powder snow drifting across the fields. There was no sign of life anywhere in the white expanse. Life seemed to have moved on.

There are times, like when the shadow of hawk-wings glides over a field, that life freezes in a moment of waiting and watching. When the danger passes, activity resumes and life goes on. But this feeling ran deeper than that. This was a quiet from which there seemed no awakening. Inexplicably, day by day, the pendulum of life had swung slower and slower. Now it had stopped completely.

The grouse, many of them, were dead. The pitiful few survivors would be in the deepest thickets. A few tracks showed there were still one or two rabbits left. But for how long? For this was the season when the hungry fox would be more and more on the prowl. How many rabbits would be left by March? How many grouse? It seemed unanswerable except by a miracle.

At the railfence I cut north and went up to the old apple orchard. It was on a hill, the highest point around, and a favorite with me. In November, when the undergrowth was thick, a step in any direction might send a cottontail bounding away. Now the orchard lay naked and exposed under its layer of snow. From the hilltop I looked out on the white expanse of fields and gray hills. Everything was empty and still.

We left the hill and went down into the pines where we'd hunted grouse that last day. It was quiet in the pines, shut off from the wind. As I moved between the trees I thought about my seed grouse. How futile it seemed, not taking my shot. I had donated one bird to the fox, to the merciless sacrifice of winter. I had . . . Thrrrrr! I turned startled as a bird went out. As he shot past I glimpsed the full black neck ruff of a cock grouse. He hammered past, hurled up and banked through an opening in the pines. My heart lifted with him. Seed!

A single grouse. But behind the windswept ridges there would be another. Maybe the hen I'd left. When the great cold passed there might be nests and new life. And from that hope I began to glimpse the miracle. Even amid death there came a growing awareness of being surrounded by life. The feeling of a faint, scarcely stirring life huddled close to the earth.

Burrowed in the frozen ground the chipmunks and field mice were sound asleep. Squirrels curled in hollow trees and leafy nests. At dusk a few rabbits would come from hiding places to nibble bark. And in the

cold dawn the grouse would scratch for seeds and dried berries in the dense thickets.

The life is there. But the mood is different. A mood far removed from the golden richness of November. Life currents run slower but deep. Snow drifting across deserted fields. The great hunger and deathly quiet. But there is something else, tremendous and awesome. That faint thread of life, cut to barest margins, clinging to the earth and rocks and soil.

Let winter scourge the earth of its food. It will grow again. Kill the rabbits on their briar-tangled hillslopes—and leave two. Break up the November flocks, shoot the grouse—and leave two. For the dominant,



underlying theme is seed. Leave seed and life will go on. The meek will inherit.

Standing Grains Benefit Game in Winter

Planning in advance of the fall harvest season, many sportsmen's clubs are contracting for strips of corn, buckwheat or other grains near protective cover. The grain so purchased will be left uncut to provide winter food for wildlife, particularly the wild turkey, in agricultural areas adjacent to woodland, where the game is known to concentrate in wintertime.

This is a simple, natural way to provide sustenance for wild game in the lean months of winter; it beats carrying out corn in deep snow, say sportsmen. It also shows farmers that hunters are willing to contribute toward the welfare of game and the protection of their sport.

Damascus Barrels

Damascus barrels, popular before the first World War, continue to harm sportsmen every year.

George E. Frost, Western-Winchester authority says no smokeless powder load of any kind ever should be used in guns with Damascus barrels. These barrels are designed for use with black powder and if modern ammunition is used in them, there exists a grave danger of explosion due to the higher pressures generated by smokeless powder.

Here is how you recognize a Damascus barrel: it has alternate strips of iron and steel, giving a barrel very pleasing to the eye but treacherous when used with modern ammunition. The wiggly snake-like contours on the barrel are easily noted and cannot be confused with the smooth blue fine-grained steel that is used in firearms manufactured today.

Frost's advice is honorable retirement for all Damascus-barrel firearms and the use of modern guns designed to use modern ammunition.



Nature's Own Johnny Appleseed—The Gray Squirrel

By Wilbert Nathan Savage

TELL a sportsman who's just failed miserably to bag a single gray squirrel that early Pennsylvanians were paid cash for killing gray squirrels by the hundreds of thousands, and he'll probably grumble and tell you the story sounds pretty ridiculous. Then add the documented fact that Ohioans were even fined in event of violation of the law (enacted 1808) which required "each free white male to deliver 100 gray squirrel scalps annually," and there's a strong possibility that you'll be accused of trafficking in fantasy in competition with Aesop, the narrator of Paul Bunyan's adventures, or equivalent creative indulgences.

In 1749, Pennsylvania offered a bounty of three pence per gray squirrel scalp. The animals were racing in the forests like swarms of grasshoppers. Crops were destroyed. The gray squirrel became a virtual plague. Even the earliest colonists in America had found their destructive numbers incredible, and had battled them valiantly for possession of practically every stalk of matured grain.

At the end of a little more than a century and a quarter after the landing of the Pilgrims, Pennsylvania set the pace in a real declaration of war against bushy-tailed *Sciurus carolinensis*. The treasurer of the State soon paid out eight thousand pounds ster-

ling for the destruction of some six hundred and forty thousand hapless grays, then often called "silver-tails." Communities offered fame and prizes to those who killed the most squirrels, and the idea caught on in other areas. Two teams of six Kentuckians each went on a seven-day killing spree and netted a total of nine thousand seven hundred and eighty animals! And as many as two thousand squirrels a day were killed in western New York by community effort.

Sometimes "myriads" of squirrels went off on cross-country treks. Apparently they moved when their numbers over-populated a particular region, even though food was plentiful, for the travelers were almost always fat. Whatever the cause, the migrations were erratic and unpredictable. Like the storied lemmings, no obstacle seemed to stop them; they crossed lakes, streams, and mountains — even great bodies of water like the Ohio and Hudson Rivers.

Victor H. Cahalane, in his *Mammals of North America,* says of these mysterious journeys: "Hundreds of thousands of gray squirrels drowned . . . or died from sheer exhaustion . . . A great migration in southeastern Wisconsin in 1842 lasted four weeks. Seton estimated that it may have contained nearly half a billion squirrels! Behind the gray horde that stretched for miles in length and width, the forest was empty. In a few years, however, the same territory seemed as thickly populated as before . . ."

The eastern gray squirrel, with which this article is specifically dealing, inhabits the Atlantic seaboard, ranging to the extremes of the western edges of the forest belts in Louisiana and Minnesota. Plump grays are to be found as far North as Nova Scotia, but beyond that locality you're apt to find their kind in insignificant evidence. (Interesting to note here is the fact that the great



island-continent of Australia has not a single squirrel, nor its kinfolk, in its entire vast territory!)

Today's comparative over-all scarcity in gray squirrel population began to take shape about the time of the Civil War. Even the fortification of astounding numbers could not withstand the onslaught of man's persistent stalking for vengeance and food. Decade after decade saw forests cleared away to build and make room for crops. Finally the time came when Destiny seemed to hold in store a parallel fate for bison and squirrel. *From 1900 to 1915, it was feared by many of the best conservation experts that the eastern species of gray squirrel might become extinct!* This opinion may have been slightly out of time with factors that reckon with squirrel powers of propagation, but without benefit of protective legislation it might have gone the way of the passenger pigeon, which was caught in a similar vortex of senseless slaughter that knew no end or compromise until total annihilation was complete.

In the Ohio Valley region, and perhaps elsewhere in a like or even greater degree, the gray squirrel population appears to vary in a five-year cycle. A peak occurred in Ohio in 1935. After making careful counts on a large area of oak-hickory woodland, biologists estimated an average population in autumn of ten and eight-tenths squirrels an acre. Then came an abrupt decline. A year later there were only two and three-tenths squirrels an acre. In 1937 the animals had begun to increase once more, and the number was up more than 1.5 squirrels per acre. During the peak of abundance, hunters spent an average of 1½ hours hunting per squirrel bagged; in the most extreme period of scarcity, the time period for each squirrel killed was increased more than six-fold!

When present-day gray squirrels go on mass excursions, numbered in movements of hundreds instead of millions, it usually can be taken to mean that a better food supply is sorely needed, and by a special "squirrel-gram" message the news of plenty of nuts in another section is diligently and effectively passed along. Hamilton, in his *American Mammals,* tells about what probably was the last great gray squirrel migrations, occurring in 1933 and again in 1935, in Connecticut and New York. The squirrels were moving west. Thousands drowned while crossing the Connecticut River; many others were killed by cars while crossing highways. A smaller migration took place in Wisconsin in 1946.

Few people are observant enough to detect the fact that the gray squirrel's coat is made up of hairs of *four* different colors— slate at the base, followed by brown, then black, then tips of white. This blend gives the pelage a gray effect. In some areas melanistic (black) squirrels are common; indeed, the black one (merely a color variation, just as a cinnamon-colored cub may be in a litter of black bear cubs) sometimes outnumber the conventional gray-coated individuals! This is not true in Pennsylvania, but many blacks are found in some parts of the State. In some seasons they appear abnormally plentiful, only to become moderately common or scarce throughout a following year.

How about albinos? Olney, Illinois, calls itself "The Home of the White Squirrels," and its population of white specimens runs beyond 1,500. They are, technically, gray squirrels, apparently stemming from an albino pair mated in 1902. From these albinos a number of wild albinos have found their way into Illinois woodlands, and the State law forbids their taking at any time if they have an all-white coat. Other odd color-wandering ranges from brown to light buff, cinnamon and salt-and-pepper.



Karl Maslowski Photo

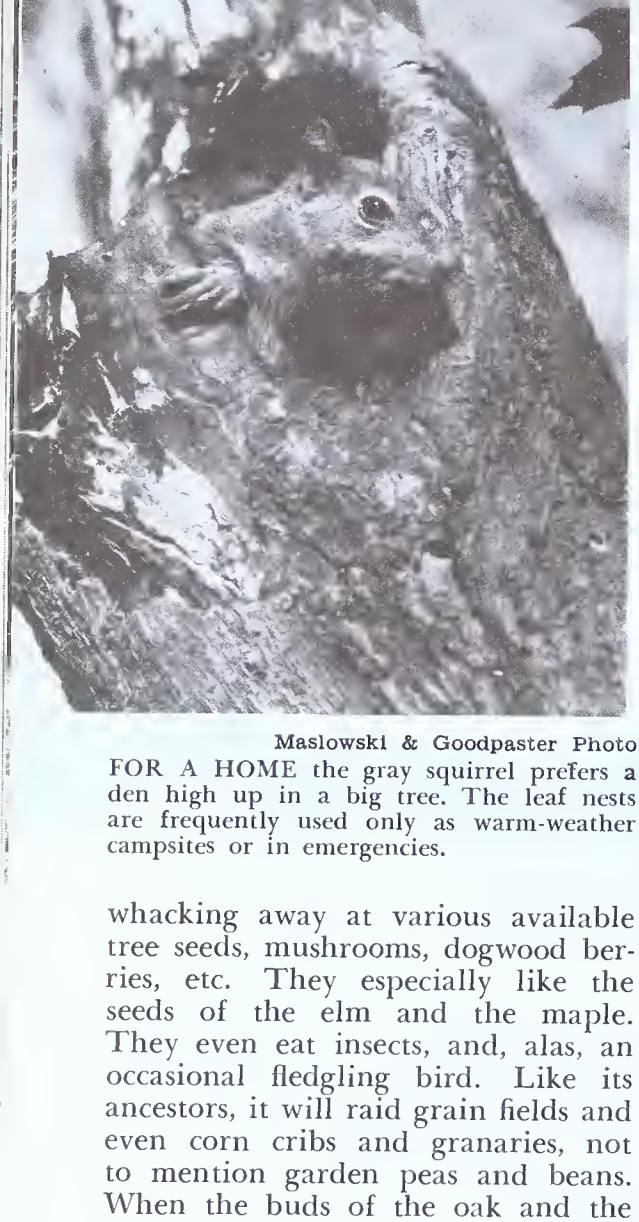
ALBINO SQUIRRELS always attract attention and are occasionally bagged by Pennsylvania hunters. Over 1,500 of these "white gray squirrels" give Olney, Illinois the name of "Home of the White Squirrels."

The gray squirrel has been called "Nature's Own Johnny Appleseed" because when he stores nuts here and there for future use his not-always-infallible memory sometimes fails to cooperate in recovery of the nuts—or perhaps he has an over-supply, or seeks a home elsewhere, or is fatally viewed over the mid-ridge of a double-barrel. At any rate, he's responsible for a great deal of reforestation—much more, perhaps, than anyone suspects. He covers a lot of ground. Tens of thousands of nut-bearing trees upon which squirrels feed today were planted by considerate relatives of long ago when squirrels were looked upon as villains, not industrious conservationists!

Mr. Gray Squirrel, still surprisingly plentiful in many counties of the Keystone State (not Fayette, unfortunately, where the author lives), has a many-sided personality. One moment you may see him "frozen," clinging vertically to a tree trunk, head down, body quivering, tail spread out like a brush. Then, presto! he's gone. At other times he may impudently ignore you; or he may scold with his "Yak-lak-ku-aaa" almost as vociferously as his mischievous and unpopular red cousin.

If you're gunning for him, he may play hide-and-seek and aim to be on the side of the tree where you "ain't" with almost uncanny timing. Or he may flatten himself out against the gray bark of a beech limb and to save your neck you can't locate his delicate outline. If his mood is one of pleasure, he has a charming purr to announce it; if an alarm warning to his brethren is in order he can emit a short series of staccato barks which clearly tell of disturbing discoveries.

It is always a worthwhile utilization of time to watch squirrels in the spring and summer. With nuts as out-of-season as a cantaloupe in Maine in mid-January, they start



Maslowski & Goodpaster Photo

FOR A HOME the gray squirrel prefers a den high up in a big tree. The leaf nests are frequently used only as warm-weather campsites or in emergencies.

whacking away at various available tree seeds, mushrooms, dogwood berries, etc. They especially like the seeds of the elm and the maple. They even eat insects, and, alas, an occasional fledgling bird. Like its ancestors, it will raid grain fields and even corn cribs and granaries, not to mention garden peas and beans. When the buds of the oak and the white and sugar maples are swelling, the nimble gray may be seen perched precariously far in the tree tops, clinging to the tip of a fragile branch, feeding on buds and flowers and catkins, swaying with the breeze and looking as thoroughly at home as a frog in a swampwater pool.

For a home, the gray squirrel prefers a den high up in a big tree. The leaf nests, built cleverly 30 to 50 feet above ground, are frequently used only as warm-weather camp sites, or in emergencies, or to starve out fleas and mites when they become too annoying in the regular den.

There is a widespread belief that red squirrels emasculate the male grays, but there is little evidence that this is true. Certainly, however, there is some sound reason for feuding between the two, for grays and reds are rarely found in abundance in the same locality. Most squirrels have their troubles with warbles of bot flies, coccidia, roundworms, tapeworms, flukes, fleas, mange mites and, in the South, chiggers. Tree climbing snakes are forever poking around in holes which they hope will contain a young squirrel or two; hawks prey on grays, and so do owls, foxes, bobcats, and weasels.

Gray squirrels appear to be a little irregular in their mating times. In the southern half of the eastern range, young have been seen in every month of the year! The vast majority, however, are born in late winter or spring, from late February through April in the north; about a month earlier in the south. A number of litters arrive in late August. Many of these are believed to be presented by females who failed to mate in the usual mid-winter season because they were still occupied with the late-August arrivals.

The gestation period of the gray squirrel is about forty-four days, and the brood may number from four to six, or as few as two or three. The young develop slowly. Their eyes are closed for fully five weeks after birth. Like a cat, the mother squirrel may carry her young great distances when danger, real or fancied, threatens. The father squirrel, who usually has several mates, goes sporting around and selfishly thinks of no one but himself after the mating season.

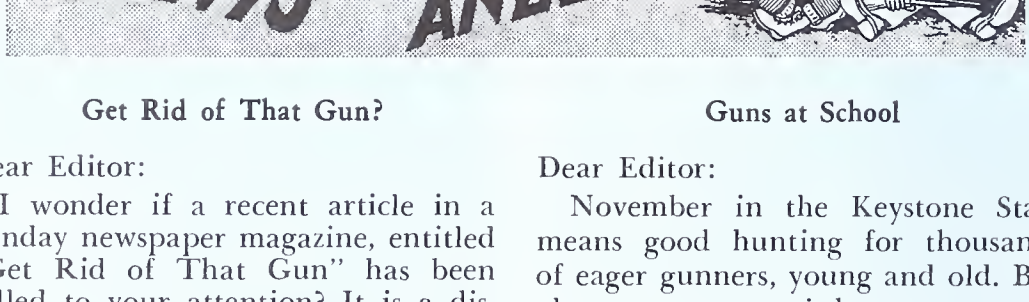
A paragraph of pertinent sidelights about gray squirrels doubtless would include such things as the fact that they may live to be 15 years old; a single squirrel may travel thirty miles and still not be necessarily migrating to any particular locality; gray squirrels have been known to fall 85 feet without visible trace of harm; and a grown gray

can travel 18 miles an hour and keep it up for a considerable distance. As many as twenty-five nuts may be cached in the ground in a half hour by a busy gray; and finally, the frisky fellow apparently has rather good homing instincts. If you carry him fifteen thousand feet from home (actual tests made) he will soon find his way back to his accustomed nest —if he doesn't spot a place that strikes his fancy as being better than the old homestead and decide to set up housekeeping in a new squirrel community.

Should the entire chronicle of squirreldom ever be revealed, man will have to face the fact that with axe and gun he has been the ambitious creature's worst enemy, and likewise the worst enemy of all his kinfolk across the continent—the fox squirrel, and the western gray squirrel, with his king-size tail, and all others fit for pot or spit. Yet the gray valiantly hangs on, holding his own, sometimes disappearing like a wraith, then popping up in substantial numbers. If he was a nuisance at one time, all is now forgiven. He's a good American; a valuable Pennsylvanian. Long may his beautiful gray banner wave wherever he is trying to keep the species flourishing in honorable numbers.

SQUIRREL HUNTING provides plenty of thrills and challenge.





Get Rid of That Gun?

Dear Editor:

I wonder if a recent article in a Sunday newspaper magazine, entitled "Get Rid of That Gun" has been called to your attention? It is a discussion of possession of firearms in the private residence. The author contends that, with firearms handy, people will pick them up and go around shooting each other.

One paragraph of this article states that in 1953, 13 gun killings occurred in Cincinnati. Just to get a better picture, and to relate these gun casualty statisitcs to other data, I found that in the same year 58 Cincinnatians died in automobile accidents, 36 died in accidents involving public non-motor vehicles, and other home accidents killed 134. Yet some police officials have endorsed this article and one has even suggested that we have a nationally observed day in which everyone will give their guns away to police departments. Those making such a proposal do try to soft pedal it by saying that hunters and sportsmen are naturally exempted. But, in my opinion, the whole idea is just like asking people who own automobiles and do not know how to drive them to turn them in to taxi cab companies.

Wouldn't it be much better for non-drivers who own cars to learn how to drive? And wouldn't it likewise be a fine thing if all those who own guns, whether they hunt or not, to learn how to use them and enjoy them more fully?

Sincerely yours,
E. W. Clede, Jr.
Hyattsville, Maryland

Guns at School

Dear Editor:

November in the Keystone Stat means good hunting for thousand of eager gunners, young and old. Bu always, up to now, it has meant score of needless firearms mishaps amon adults and juniors alike—mostly be cause so many who take rifles an shotguns into the woods are eithe improperly trained to handle ther or are thoughtlessly and tragicall careless in their use. It would seer that proper education throug school-sponsored courses would de velop a philosophy of safe fun han dling which would, in time, reduc this toll of human life and injury George W. Harvey, professor in th Physical Education Departmen Pennsylvania State University, say "One of the rapidly growing phase of education is outdoor educatio The purpose of Health and Physica Education courses are to fit the stu dent for a healthy and normal lif In that few students, after gradua tion, participate in callisthenics, foo ball, basketball and the like, it ha become a policy of State Universit to offer students activities which wi be a part of future normal living The Firearms Safety Education Pro gram fits in with the functional typ education that we are endeavoring t give boys and girls in order to pre pare them for life and good citizen ship."

Jim Dee, Safety Representative
Sporting Arms & Ammunitio Manufacturers' Institute
Camp Hill, Pa.

A Sportsman's Guide To . . .

Warren County

Fifty-fifth In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Warren County contains 587,264 acres of which 447,667 acres (76.2%) are forested. Publicly-owned land totals 151,191 acres, including 32,427 acres of State Game Lands. The Allegheny National Forest, administered by the U. S. Forest Service, covers over 118,000 acres in this county with the Forest Headquarters located at Warren, Elmer M. Bacon, Supervisor.

Topography

This county, which borders on the State of New York, is outside the so-called mountainous section but is still hilly and very much broken, especially along the streams. The Allegheny River enters Pennsylvania at the northeastern corner of the county and cuts through its center, flowing in a southwesterly direction. Important tributary streams afford water power that helped to make lumbering the leading industry for many years.

Transportation

Railroad transportation is furnished by the Pennsylvania, the New York Central, and the Erie lines. The Roosevelt Highway (U. S. 6), U. S. Route 62 and other important highways traverse the county, which has a total of 412 miles of improved State highways.

District Game Protectors

District Game Protector George H. Burdick, Box 266, Tidioute (Phone: IVanhoe 4-3311) is assigned to the following townships: Columbus, Spring Creek, Eldred, Southwest, Freehold, Pittsfield, Deerfield, and Triumph.

District Game Protector William R. Overturf, 126 Highland Ave., Youngsville (Phone: 6-2901) is assigned to the following townships: Sugar Grove, Farmington, Pine Grove, Elk, Broken Straw, Conewango, Glade.

District Game Protector David R. Titus, 213 Connecticut Ave., Warren (Phone: 1879) is assigned to the following townships: Corydon, Kinzua, Mead, Pleasant, Watson, Limestone, Cherry Grove and Sheffield.

Fish Warden

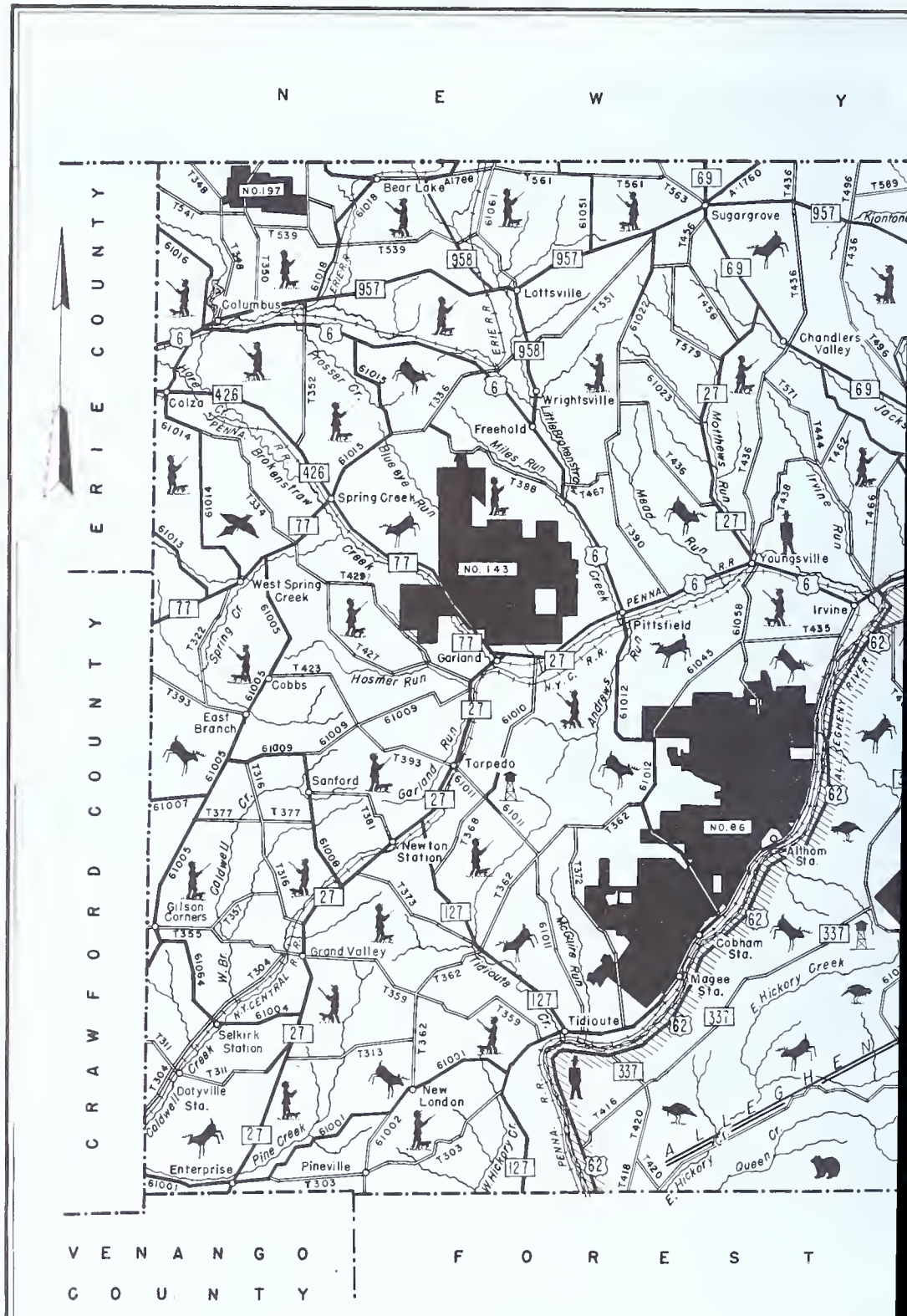
Fish Warden Robert M. Betts, Box 691, Warren is assigned to this county by the Pennsylvania Fish Commission.

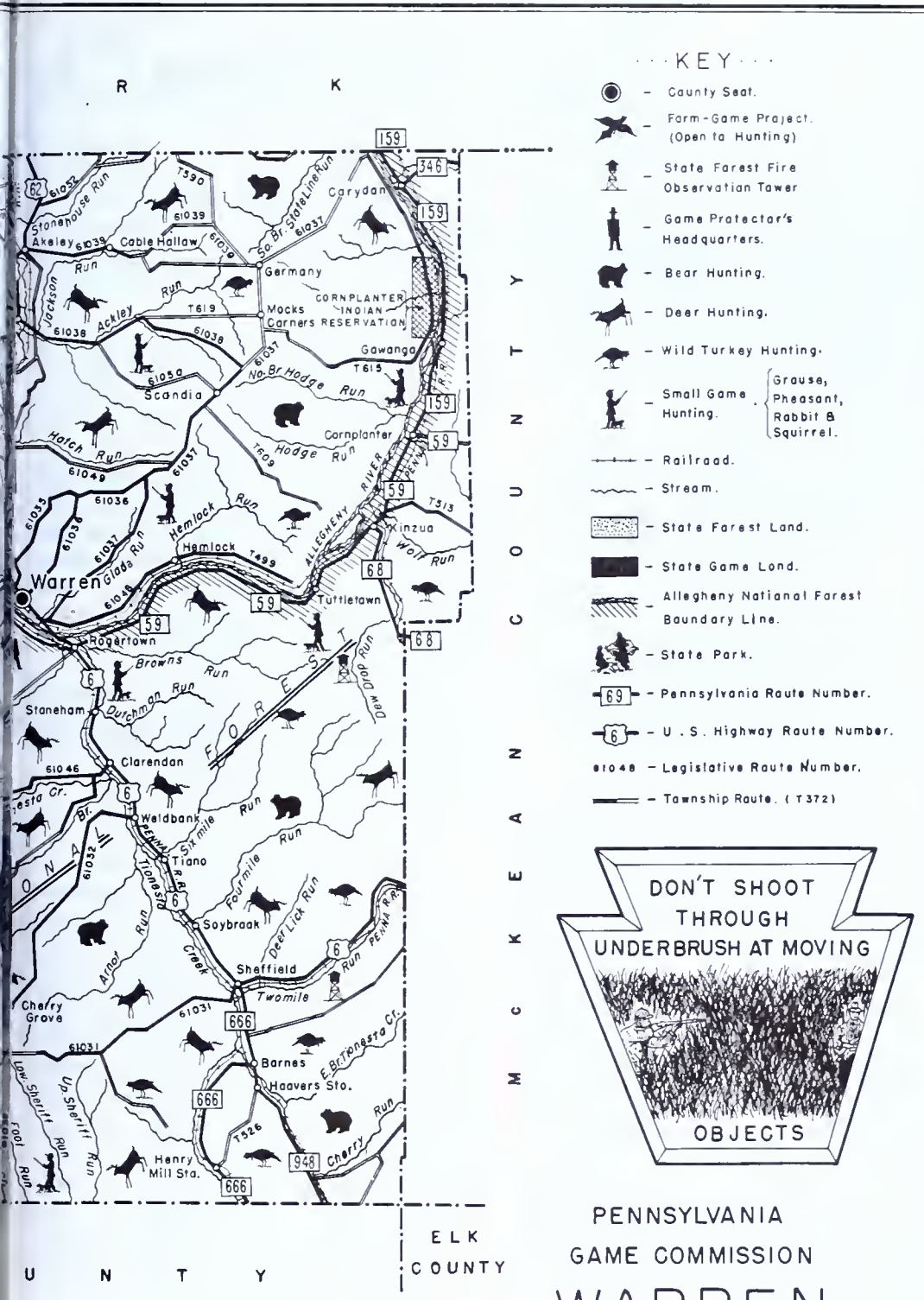
District Forester

District Forester O. L. Muhlhollen, Box 471, Clarion includes Warren County in the District assigned him by the Pennsylvania Department of Forests and Waters.

Agriculture

Warren County has 1,893 farms with 66,062 acres under cultivation.


N E W Y
CRAWFORD COUNTY
ERIE COUNTY
VENANGO COUNTY
FOREST
NO. 197
NO. 143
NO. 66
Bear Lake
Columbus
Lottsville
Sugargrove
Chandlers Valley
Wrightsville
Freehold
Colza
Spring Creek
West Spring Creek
Garland
Pittsfield
Youngsville
Irvine
Cobbs
East Branch
Sanford
Torpedo
Newton Station
Althom Sta.
Gilson Corners
Grand Valley
Cobham Sta.
Magee Sta.
Tidioute
Selkirk Station
Dotyville Sta.
New London
Enterprise
Pineville
Hosmer Run
Garland Run
Miles Run
Blue Eye Run
Little Brokenstraw
Head Run
Andrews Run
McGuire Run
Caldwell Cr.
Pine Creek
Queen Cr.
E. Hickory Creek
W. Hickory Cr.
ALLEGHENY RIVER
ERIE R.R.
PENNA. R.R.
N.Y. CENTRAL R.R.
W. BR.
69
957
958
6
426
77
27
62
337
127



· · · KEY · · ·

- County Seat.
- Farm-Game Project. (Open to Hunting)
- State Forest Fire Observation Tower
- Game Protector's Headquarters.
- Bear Hunting.
- Deer Hunting.
- Wild Turkey Hunting.
- Small Game Hunting. { Grouse, Pheasant, Rabbit & Squirrel.
- Railroad.
- Stream.
- State Forest Land.
- State Game Land.
- Allegheny National Forest Boundary Line.
- State Park.
- 69 — Pennsylvania Route Number.
- 6 — U. S. Highway Route Number.
- 61048 — Legislative Route Number.
- Township Route. (T372)

PENNSYLVANIA
GAME COMMISSION

WARREN COUNTY
PENNSYLVANIA

0 1 2
Scale in miles

L.A.M.

Industry

Natural gas and petroleum are found in abundance. The county has no limestone and only one small coal mine. Sandstone is abundant for building purposes and sand and gravel are dug for roads and concrete. The chief industrial products are oils and greases, furniture, gasoline, railroad supplies, forgings, boilers, tanks, stacks and drums, and glass bottles and jars.

History

From 1801 to 1870 Warren county was the dramatic scene for the cutting of great virgin forests—logs from which were floated down the Allegheny to Pittsburgh and even further south down the Ohio and Mississippi. After the famous Drake oil well was opened in 1859 in nearby Venango county, Warren county also knew the excitement of the oil boom.

Bordering on the Allegheny river in the northeast corner is the Cornplanter Indian Grant. Cornplanter, who died there in 1836 at about 96 years of age, was the famous Indian chief who had allied himself with the French and may have been a boy spectator at Braddock's defeat. During the Revolution he fought with the Tories and was one of the leaders of the Senecas at the so-called Wyoming massacre. In 1790 Cornplanter visited President Washington and Governor Mifflin in Philadelphia and was granted three tracts of land, of which only the one in Warren County, consisting of 640 acres, remains. Many of the Indians moved to other reservations but several Cornplanter descendants still live on the Grant which is tax exempt and is held in perpetuity.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Ben Jeorge Creek, Tidioute, Rt. 127, 5 mi.; Blue Eye Creek, Garland, Rt. 127, 6 mi.; Brokenstraw Creek, Spring Creek, Rt. 177, 5 mi.; Little Brokenstraw Creek, Pittsfield, Rt. 6, 6 mi.; Caldwell Creek and West Branch, Grand Valley, Rt. 27, 9 mi.; Chapman Dam, Clarendon, Rt. 6, 78 acres; Coffee Creek, Columbus, Rt. 957, 4 mi.; West Hickory Creek, West Hickory, Rt. 127, 2 mi.; Lamb Run, Tidioute, Rt. 127, 4 mi.; McGuire Run, Tidioute, Rt. 127, 5 mi.; Perry McGee Run, Tidioute, 1 mi.; Phelps Creek, Columbus, Rt. 957, 3 mi.; Pine Creek, Enterprise, Rt. 27, 7 mi.; Rock Hollow Run, Tidioute, 4 mi.; Spring Creek, Spring Creek, Rt. 77, 6 mi.; E. Branch of Spring Creek, Spring Creek, Rt. 77, 5 mi.; N. W. Br. of Spring Creek, West Spring Creek, Rt. 77, 2 mi.; Tidioute Creek, Tidioute, 4 mi.; Wilson Run, Tidioute, 4 mi.

BLACK BASS: Allegheny River, Warren, Rt. 6, 30 mi.; Chapman Dam, Clarendon, Rt. 6, 78 acres, Conewango Creek, Warren, Rt. 6, 15 miles.

Recreation—Hunting

Warren County is especially noted for deer hunting, usually ranking among the top ten in the state in annual kill. Some farm game hunting is found in the valleys but the county is primarily suited to forest game species such as grouse, wild turkeys, squirrels, bears, and snowshoe rabbits. Two Cooperative Farm-Game Projects are located as follows: Number 196, covering 10,251- acres near Corry; and Number 203, covering 6,752 acres near Lander. Other public hunting areas include the large portion of the Allegheny Forest lying within this county and State Game Lands as follow: Number 29, covering 9,831 acres near Dunham Mills; Number 86, covering 13,947 acres near Pittsfield; Number 143, totaling 7,622 acres near Garland; and Number 197, covering 1,028 acres near Pine Valley.

Outdoor Reveries



Brook Song

By John H. Day

FOR at least one hundred and fifty years the water has rippled over the sill on which once firmly set the gate to the old milldam. Of the mill, save this water-logged beam, not one sliver of wood remains, and even the tradition of the miller and his work is gone. The countryman and a few old-timers merely know that here stood one of the grist mills of the early pioneers, a mill to which the neighbors brought their corn in sacks, probably on their shoulders. After the wheel had turned and the grist was ground, they toted off the meal, leaving the canny miller his just due in payment.

The smoothing hand of time wipes out man and all his works. Motorists speeding along the adjacent roadway never dream that here once stood a rude but busy enterprise, center of the social life and focal point for the scanty news and gossip of the countryside of those early days. Exploring the stream with neb-nose curiosity, the countryman stumbles over the sill, and notes the mounded outline of the old millrace, now the pasture abode of contented Holsteins.

But still the water ripples over the old, brown oak sill, and he who listens may hear the brook telling a story all day long in purling undertones. The most friendly voice in Nature is the song of the brook. Neither the wind in the pines nor the voice of the sea can compare with this for true sociability.

The language of the brook is a simple one, but the words tumble so swiftly over one another that the countryman can't quite catch them. After all, the brook is shallow and it is probable that it prattles merely the gossip of today and yesterday and the days gone by. The brook tells more of nature than it does of man, perhaps because it has known man for so short a time. A hundred forms of life live in it and on it, while through the air above float a thousand more.

The brook knows how to write, too. On every placid pool at the foot of some race of ripples it mixes telegraphic dots and dashes with stenographic curves, all written in white foam on the smooth black mirror of the surface. Through the quiver of sun and shade it sends out heliograph flashes which only the knowing may translate. Just when the countryman is working out the secret message, along comes the current to rearrange the whole puzzle.

The brook has many voices. It

seems as if inhabited by a number of spirits throughout its length, some whispering, some laughing, others singing. Not only are the voices pitched in various keys, but the quality of tone differs greatly. The countryman plays the age-old game of "tuning the brook," by damming its waters where they rush through some narrow crevice in the rocks, and drawing from the remonstrating stream a new musical note.

It is easy to see how the primitive mind came to deify the streams, for the brooks have motion, voice and expression, ripple and laugh in the sunshine, and are responsive to the wind and the sky. They are still divinities to the fisherman who seeks an ever closer affiliation with their mystical fastnesses. Here in close communion with the murmuring waters, the whispering trees and the silver gleam of trout, he falls under the spell of brook magic and loses affinity with the world.

There's nothing lazy about a brook. In miniature it illustrates the forces which have shaped much of the earth's surface. Day by day, and century by century it carries its burden of silt and earth waste, which it lays down in the quiet places. It does its work as slowly and as quietly as the drifting of the years.

No one today knows who laid the sill of the milldam so firm and level that the wear of a century and half of swift water has not obliterated it. No one knows whether it ground corn or sawed boards for the pioneer who built it. Probably the millstones are around somewhere close by, but the life and laughter and courage that the old mill knew are there no more. Only the brook knows of these things, and it talks and talks, but no one fully understands.

Fishermen and "practical" folk doubtless feel a wondering disdain for countrymen who find pure joy in just moseying along with a meandering stream. Why should a man waste time on a brook without rod and line? Yet countrymen have fished wel in the talking brooks, and brough home good catches, though neve casting a fly or killing a fish.

The day had been murky an heavy with haze, closing in at th evening hour with an intermitten drizzle from low hanging cloud which seemed to rest on the hillto across the valley. Full darkness cam early, and we were glad for the light and warmth of home. One of th main airways passes right over ou house and we remarked at the lo flying transports feeling their way i by instrument through the soup weather.

There is another skyway, mapped out many years ago, heading southerly above our valley. The pilot who fly this route depend not on in struments, but on a sure instinc which holds them true on course n matter what the weather. The radi was blasting away one recent evening and a big four-motor plane was roar ing in overhead when we heard an other hullabaloo which brought m racing to the door.



It was old familiar music, the exciting, spine-tingling gossip of a great flight of Canada geese freighting through the darkness to some favorite seaside resort, probably somewhere near the Chesapeake. The powerful birds were very low as they crossed our valley and there was much conversation between pilot and navigator, and between pilot and the two wingmen.

I could imagine that great V-shaped formation up there in the darkness, driving through rain and cloudbank, wind and midnight calm. As with every outdoorsman who hears these birds go by, my spirit tugged mightily at the leash, eager to be out there on the flyways, breasting the skies enroute to high adventure. We strained to hear the last faint honking as the flight drove on out of earshot.

Before the fall rains come to turn the mulch blanket into a sodden mass underfoot, the November timberlands are noisy places. The tiny chipmunk foraging about home base sounds at least as big as a small horse plunging through those brittle leaves. I would not have seen the two deer racing up through the abandoned orchard had it not been for the noise of their hasty departure through those betraying leaves.

There is a fellowship in the sunlit November woods that is lacking at other seasons. Now all housekeeping chores are over, food supplies are plentiful, and life becomes a sort of nomadic jubilee until the Snow King calls a halt to the celebration. And incidentally the countryman can enjoy an hour of leisure stretched on some hidden sun-warmed bank without being pestered by a million flies and gnats and mosquitoes.

I sprawled at ease against the flaring buttress of a huge beech and lazily watched the November proceedings. After a few moments of stillness the racket became almost unbelievable. There were mysterious lungings and racings about on all



sides, all clearly advertised by those revealing leaves.

While a whole colony of chipmunks scurried about, and a big gray squirrel explored the bank opposite me, a noisy contingent of chickadees and titmice, with some nuthatches trailing behind, "worked" all the trees around. One bright-eyed titmouse became so interested he dropped down to a branch not four feet from my face and sized me up thoroughly.

After some loud complaining from a nearby ravine, a pair of pileated woodpeckers eased along through the trees. One of these big fellows worked over a mouldering log in full view, and for at least ten minutes I had him full in the glasses, his grotesque red cap bobbing energetically as he chiseled away for an afternoon snack of beetle grubs.

Among the gifts I received on the occasion of a recent birthday was a crow call—one of those betraying hard rubber contraptions used by crow shooters to lure the ebon fellows within scatter-gun reach. I immediately stepped outside and tried it on Laddie, the collie who allows us to share our valley home with him. Holding the call in half-clenched hand, as per instructions, I groaned into it what was supposed to be authentic crow lingo. What come out was a raucous scream, like a neurotic

banshee's wail. Laddie gave me a startled look, then crept abjectly into his house.

This was far from an auspicious introduction to the art of crow calling, but I tucked away the gadget in my hiking vest, for future reference afield. A week or so later I toiled laboriously up and across the wooded slope behind the country cabin of my friend, the ginseng hunter. He was occupied elsewhere, so I was all alone in that remote woodland, with no witnesses to my clumsiness if the crows ignored my amateur pleading.

There had been nary sight nor sound of crow all day. Turkey vultures soared out from behind the hills and "worked" the broad valleys far below. A lone hawk, one of the big buteos, swam lazily through the sunlit sky. But Mr. Corvus was nowhere to be seen nor heard. Here was the perfect time and place to try my skill.

The instructions say that when you blow the call you should make a sort of groaning sound deep in your throat. This is supposed to set up a sympathetic vibration of your voice with the reed to get the natural "caw" of the crow. I found a sun-warmed spot close against the bole of a huge beech, well hidden by a tangle of briars, and cut loose with some plain and fancy crow talk.

There was a light breeze rattling through the nearby denuded trees. Now and then an acorn dropped with surprising racket. I listened for a while, then made the welkin ring once more with a din I fondly imagined was crow jargon. I listened again, and sure enough a lone crow spoke somewhere out there across the valley.

With renewed ardor I wheedled that call for all I was worth, meanwhile watching the sky to observe results. Finally he showed up, high overhead, and plainly puzzled by the accent coming out of the trees below. Perhaps I make a better Brooklyn crow than one of the local gentry.

He circled, well above gunshot range, and practically stood still against the breeze as he searched the trees for some sign of the queer bird mimicking his black freebooter pals down there by the huge beech. I felt at least half-way successful. Even though he didn't fly down and light on my shoulder, I had pulled him clear across the valley. A little more practice and I'll be singing second tenor with the Ebony Four.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

PENNSYLVANIA GAME NEWS, published monthly at Harrisburg, Pennsylvania for 1955.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa. Editor, Willard T. Johns, Jr., Harrisburg, Pa. Managing editor, None. Business manager, None.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear up the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

WILLARD T. JOHNS, JR.
Editor.

Sworn to and subscribed before me this 29th day of September, 1955.

(Seal) FLORENCE E. DYER,
Notary Public.

(My commission expires February 1, 1957).



Coon Earns His Keep

LAWRENCE COUNTY — I was asked sometime ago to live trap a raccoon in New Castle that was going thru the usual "coon" routine of upsetting garbage pails, etc. This particular ringtail regularly upset the steel barrel or drum used as a yard incinerator by a Pearson Furst. Now, Mr. Furst likes animals but enough is enough of anything. Sometime elapsed before I got a "coon" trap free to use there and when I did so, Mr. Furst refused to have the animal removed, saying, "that big old coon is welcomed to stay as long as he likes." Someone in the Furst household took some refuse to the incinerator to be burned but did not light the fire due to neighbor having a wash hanging on the clothesline. Several days later, Mr. Furst also went to the incinerator for the same purpose but to his dismay found the refuse put there earlier scattered over the ground and wet from rain. Later that day when the papers, etc., were partially dried out, Furst set to work to burn everything using a pitch fork. One brown envelope when forked on the fire looked unopened and on investigation revealed a misplaced batch of valuable receipts and $87.00 in cash. So since Mr. "Coon" delayed the burning of the valuables which ended the disappearance, Mr. Furst said, "That coon doesn't owe me a cent."—District Game Protector Calvin A. Hooper, New Castle.



Deer Up the Drain

TIOGA COUNTY—Louis Tickner, R. D. #2, Mansfield, was awakened one night by the barking of his collie dog. Unable to silence the dog, he dressed and taking a flashlight, investigated the trouble. He found the dog barking into a drainpipe at the nearby highway and expected that he had holed a coon or other small animal. He was surprised to see a doe deer about ten feet inside the pipe which was about 30 feet long and 2 feet in diameter. After some time he was able to drive her the rest of the way through the pipe where she soon fled to the nearby woods.—District Game Protector James A. Osman, Mansfield.

Chemical Treatment from Topside

ELK COUNTY—In August, I had the pleasure and enlightening experience of flying over my Game Lands in a small plane. The chemically treated areas are very evident and one wonders how it is possible to lay out such even, concise and straight strips. These appear as strips of brown tape on a background of green. In nearly all cases they are just half as wide as the green strips.—District Game Protector Vern A. Van Order, Wilcox.



Served Her Right

MERCER COUNTY—During the month of August I trapped for ground predators upon request of farmers and landowners. A great deal of the fox trapping was done in pasture fields, and as expected, the cows sprung many of my traps by stepping on them. But one young heifer must have liked the odor of my fox trap on her nose. The farmer and owner relieved the heifer of her burden when she came to the barn that night. The heifer was not injured, but she did learn that fox traps should be on foxes and even cows will get into trouble if they get their nose in other peoples business.—District Game Protector Arthur T. Biondi, Mercer.

Snakes Beware

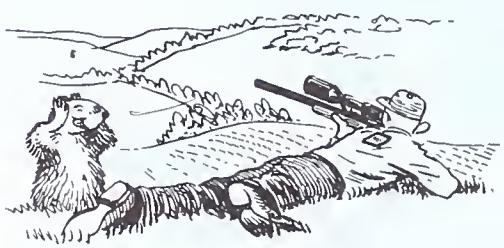
BERKS COUNTY—I have encountered many hikers on that part of the Appalachian Trail which crosses State Game Lands No. 110. Only a small percentage of these people follow the Scout slogan of "Be Prepared," at least as far as snakes are concerned. Only one group I talked to carried a snake bite kit and most of the people wore low shoes. The fact that this area has rattlesnakes and copperheads does not seem to bother the hikers.—District Game Protector Samuel C. McFarland, Centerport.

Brush Parakeet

CENTRE COUNTY — Recently while on patrol, Deputy Simcox and I checked some food plots on a remote section of State Game Lands No. 60. Coming out between two of the fields we saw a bird perched on a bush on the edge of the field. It didn't appear to be any kind of wild bird that we were familiar with so we approached it to make better identification. It was a blue and grey parakeet with a band around its right leg. I knew the food plots had a lot of drawing power for turkey and deer, but was surprised to see a parakeet there, at least ten miles from the closest habitation. Deputy Simcox and I tried to catch the parakeet, but in the process we came in close contact with a four foot rattlesnake, too close for comfort. So as far as I know the parakeet is still making the food plot on Game Lands No. 60, his home.—District Game Protector Robert H. Sphar, Philipsburg.

Too Close

LUZERNE COUNTY—The other day while patrolling I found that the picture of ground hog hunting has changed. That is, for some hunters the shooting has changed. I checked a hunter who had killed a woodchuck at 200 yards, which I stepped off after a discussion of the distance. Not far away was a woodchuck at about 65 yards that I asked the hunter to try and you guessed the answer received, "Too close."—District Game Protector John C. Behel, Wilkes-Barre.



Murder on the Highway

STATE COLLEGE—Last summer while returning from an afternoon of instruction at the Junior Conservation Camp near Petersburg, I witnessed a most disturbing exhibition of wildlife murder by a heartless motorist. As I approached the main highway, I noticed a ruffed grouse standing in the center of the road. With the field glasses I determined that it was a mother grouse trying to get her tiny chicks across the heavily travelled thorofare. During the few minutes I sat there, several motorists slowed down and were very careful to by-pass her. Each time the hen would go to the opposite side and the chicks would scurry back to the cover in the ditch. After each car had passed, she would resume her coaxing from the middle of the highway. Then along came "Heartless Harriet." She slowed momentarily, then stepped on the gas again and deliberately ran directly over the hen. As the car passed me, both women were laughing gleefully. Surely they must have realized that they had not only killed the mother bird but her entire brood as well, because it would be impossible for them to survive without her. You can imagine what a jolt this incident gave me after teaching conservation to boys all afternoon. Evidently we need conservation classes for adults, too.—Stephen A. Liscinsky, Wildlife Research Division, State College.

Too Many For Mink

INDIANA COUNTY — Milo Weaver, of South Mahoning Township, related to me that 284 of his four-week-old chickens had been killed by a mink during the last week of June. A trap was set and the next day the mink returned. It was his last visit.—District Game Protector A. J. Zaycosky, Indiana.



Mistaken Identity

SCHUYLKILL COUNTY — An animal which he shot thinking it was a woodchuck is another incident by a hunter who wishes to remain anonymous, brought in to Deputy Game Protector Mason Spancake. This animal being approximately twice as big as the woodchuck and having a round and almost hairless tail and web hind feet was later identified as being a coypu. This animal was shot while it sat out in a clover field eating clover just like the woodchucks, and at a distance which would tend to dwarf its size.—District Game Protector Ralph L. Shank, Pine Grove.

Porky Does It Again

SUSQUEHANNA COUNTY—Last month I was told of a pig belonging to Mrs. Evelyn Rice of Brushville getting its snout filled with porcupine quills. It was recently brought to my attention that a horse belonging to Andy Burns of Churchill Lake came in one morning with several quills in its muzzle. No one has ventured a guess as to what business a porcupine had in a pig pen or an open pasture, but it is certain he wasn't on a good will tour.—District Game Protector Donald G. Day, Susquehanna.



Masked Bandit's Hideaway

ADAMS COUNTY—A Game Protector receives many complaints, but recently I received one that I think is a little unusual. The letter read in part as follows: "Please call at your earliest convenience and bring traps to get the raccoons who have taken possession of my house. They have cut the plaster lathe in two bedrooms and have ruined both ceilings. Hunters don't come on this side of the road because they fear losing their dogs. So the animals have taken my house as a hideout. I will furnish any kind of bait." Upon investigating this complaint I found the damage was not so bad as described. To date I have caught nothing but house cats.—District Game Protector John R. Spahr, Pine Grove Furnace.

Snug Skunk Snarls Cleanup

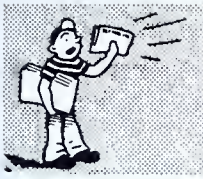
MONROE COUNTY—During the recent flood in East Stroudsburg, I was called upon to remove a skunk from the second story bedroom in one of the flooded homes. The water had just gone down enough for the people to get back in their home to get clothes when they discovered the skunk in the middle of the bed. I had to remove the animal before the clothes could be dried out. The water had come over the second floor but not up on the bed which was the only dry bed in the house.—District Game Protector John H. Doebling, East Stroudsburg.

Hawk Halted on Turnpike

LANCASTER COUNTY — On August 29, 1955 I observed a bird that had been run down on the Pennsylvania Turnpike, where it crosses State Game Lands No. 52, in Lancaster County. I examined the bird in question and found that it was an adult broad-winged hawk. This was the first hawk that I ever found that was run down on a highway. Evidently the bird could not compete with cars travelling approximately 70 miles per hour. About one fourth mile west of the dead bird I observed another broad-winged hawk perched on a dead snag. Apparently the hawk migration has started inasmuch as these were the first of this species that I have seen in recent months.

While working my Brittany Spaniels on Game Lands No. 220, I observed my male dog on point. However, the dog failed to remain staunch and I thought that something strange was taking place. Upon approaching the dog I observed three pheasant chicks about four or five days old running around in the grass about three feet in front of the dog. The dog held point until I was able to attach a leader to his collar and take him away from the chicks.—Land Utilization Assistant Albert R. Bachman, Reading.





CONSERVATION NEWS



Commission Reorganizes To Improve Efficiency

On October 10 the Pennsylvania Game Commission announced "reorganization at the top," effective as of that date. For many months the Commission has studied functional changes with a view to improving the organization's efficiency. The Commission proposed the changes and the Governor's Executive Board approved the reorganization. No changes were made in the Commission's field divisions.

Under the reorganization, M. J. Golden, formerly Supervisor of the Commission's Farm-Game Cooperative Section, will serve as Deputy Executive Director to Dr. Logan J. Bennett, who continues in the capacity of Executive Director. Golden will complete 25 years service with the Commission next January. He started as a Deputy Game Protector in his home county, Lackawanna and in 1935 was appointed District Game Protector for the same county. In 1940 he was promoted to the position of Supervisor of the Commission's Southeast Field Division with headquarters at Reading. He held that position until he was placed in charge of the Farm-Game Program six and a half years ago. The new deputy is 54 and has five children, including two sons presently serving in the armed forces. Mr. Golden is an expert pistol and revolver marksman and has held the pistol championships of Pennsylvania, Maryland, West Virginia, New York, New Jersey and Delaware. In addition he won the Canadian Open National Pistol Championship in 1952.

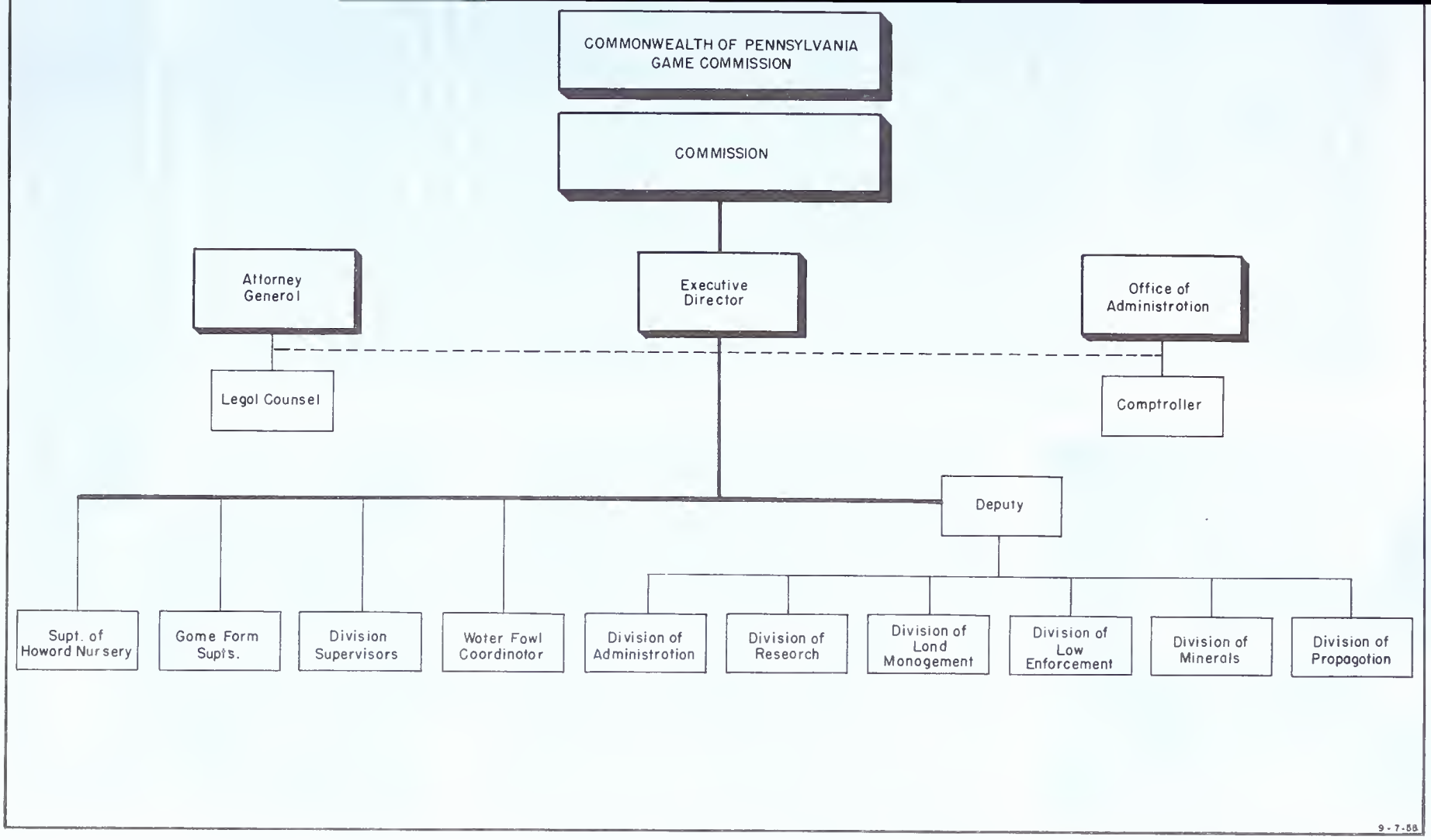
The Commission's new organizational chart (see next page) shows that the Bureau of Administration and the Bureau of Wildlife Conservation have been abolished. All Field Operations, including Field Divisions, Game Farms, the Commission's waterfowl program, and the wildlife plant nursery at Howard now come under the immediate supervision of the Executive Director and his Deputy. The staff divisions in Harrisburg—namely, Administration, Research, Land Management, Law Enforcement, Minerals, and Propagation—now report directly to Deputy Executive Director Golden.

Jay C. Gilford, formerly Director of the Wildlife Conservation Bureau, was named Chief of the Division of Minerals. Rollin Heffelfinger, former Director of the Administration Bureau, now heads the Division of Administration. Functions of this new Division will include personnel management, conservation education, public information, publications, and purchase of supplies and materials.

In announcing the new administrative organization, the Game Commission emphasized that its entire purpose was to make the operation of its program more efficient to better serve the sportsmen and citizens of Pennsylvania. The revised organizational chart closely resembles "streamlined" functional plans now used in modern government and industry.

M. J. Golden




COMMONWEALTH OF PENNSYLVANIA
GAME COMMISSION
COMMISSION
Attorney
Generol
Executive
Director
Office of
Administrotion
Legol Counsel
Comptroller
Deputy
Supt. of
Howord Nursery
Gome Form
Supts.
Division
Supervisors
Woter Fowl
Coordinotor
Division of
Administrotion
Division of
Reseorch
Division of
Lond
Monogement
Division of
Low
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Minerals
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Propogotion
9-7-88

Supervisor M. E. Sherman To Retire November 1

The Pennsylvania Game Commission is losing the services of one of its finest, most respected field officers. Maurice E. Sherman, Supervisor of the Commission's Northcentral Field Division with headquarters at Lock Haven, will retire November 1 after more than 36 years of loyal, devoted service to the Commission and to the sportsmen of Pennsylvania.

Supervisor Sherman's service to his state and country spans more than four decades. Born October 21, 1891 in McConnellsburg, Fulton County, he was a member of a U. S. Army Cavalry unit early in this century with tours of duty on the Mexican Border and in the Philippines. He later served four years in the Pennsylvania State Police (then mounted on horses and called the Pennsylvania State Constabulary Force), leaving with the grade of sergeant. During World War I he served overseas in the U. S. Army, seeing action in France and Germany, and was separated from the service with the grade of lieutenant.

Upon his return from military duty Sherman joined the Game Commission on October 25, 1919 as a game protector in Fulton County. On



Maurice E. Sherman

August 1, 1922 he was promoted to his present position and has served as a Field Division Supervisor ever since. Maurice Sherman holds many "mythical" titles with the Game Commission. He has the longest service of any of the six Field Division Supervisors and has served longer than any other member of the enrolled field force. He is married, has two sons and several grandchildren. He plans to return to his native home in Fulton County upon his retirement.

This magazine joins all members and officers of the Pennsylvania Game Commission, as well as countless numbers of sportsmen, in wishing Maurice E. Sherman a well-earned retirement and a much deserved rest after a long and honorable career of public service.

As successor to Sherman, the Commission has named Leroy Gleason who, for the past five years, has been one of Sherman's assistants. The new supervisor is thoroughly familiar with field operations and administrative duties. He was first appointed as an Assistant Game Protector in Lycoming County on June 1, 1934. Four years later he was promoted to Game Protector in the same county and on February 1, 1947 to Wildlife Protection Assistant in Field Division headquarters. Mr. Gleason is a "native son," born February 6, 1898 at Medix Run. He is married and has a son and daughter.

Leroy Gleason





PGC Photo by John

BEST WISHES to R. J. Costley, supervisor of the Allegheny National Forest, were ex pressed by Pennsylvania conservation officials at meeting of Pennsylvania Outdoor Write in Harrisburg last September. Costley was recently promoted to assistant regional forest in charge of information and education for the U. S. Forest Service Northcentral Regio at Milwaukee. Left to right: Dr. Logan J. Bennett, Game Commission Executive Directo M. K. Goddard, Secretary of Pa. Dept. of Forests & Waters; Wallace Dean, member o the Fish Commission; Costley; and Ray Armstrong, president of the Pa. Federation o Sportsmen's Clubs.

Hunting License and Digest Carry Valuable Information

Inquiries from persons who hunt or trap in Pennsylvania suggest tha many fail to read the information given on the hunting license or in th digest accompanying it.

It seems that, in many cases, immediately after purchase the license is in serted in the holder on the hunting coat and forgotten. Actually, muc worthwhile information is printed on the three-section license, whereon th small game, large game and fur seasons are given, along with general instru tions that will answer many questions.

The Game Commission recommends, also, that every license buyer rea the Digest of Hunting and Trapping Regulations he receives at the time th license is purchased. The Digest is a pamphlet that tells many things anyon who hunts or traps in the Commonwealth should know or review before go ing afield. It answers, too, the commonly-asked legal questions about gun ammunition and many others, and explains regulations it is not possible t include on the license.

On the back of the license tag is a statement that should be known an observed by all who hunt or trap in this State. It reads: "Your hunter license does not authorize you under any circumstance to trespass on privat property, whether posted or not, without the permission of those in contro thereof."

San Juan Rabbits Banned

Act No. 132, making it unlawful to import or release San Juan rabbits in Pennsylvania prior to August 31, 1957, was passed in the current legislative session. It was signed into law by Governor Leader August 31, 1955. Penalties for violation are provided.

The Department of Agriculture is charged with the enforcement of the Act, which reads in part: "It shall be unlawful to import or release any such rabbit *after August 31, 1957,* unless the Secretary of Agriculture, after conferring with the Pennsylvania Game Commission, shall decide the San Juan rabbit is not destructive to farms or farm products or other property and therefore is not a nuisance. In such case the Secretary of Agriculture shall make public his findings and the provisions of this act shall no longer be effective.

ANY OLD LICENSE TAGS?

The Administration Division of the Game Commission occasionally receives requests from sportsmen, Commission personnel and others interested in collecting old hunting license tags. Such tags are usually made up into complete collections of Pennsylvania hunting licenses and are often used in sportsmen's shows or for other educational displays.

If you have any old license tags which you would like to donate for such purposes, the Division would welcome receiving them. There is an immediate need for tags for the license years 1913-1930; 1944; 1946 and 1950. Please address tags to the Pennsylvania Game Commission, Administration Division, Harrisburg.

NEW PRESIDENT of Pennsylvania Outdoor Writers Association, Dr. Alvin R. Grove, of State College, is congratulated by Lew Klewer, Toledo, Ohio, national president of Outdoor Writers Association of America, right, and retiring POWA president Jack Richards, of Pottsville. Pennsylvania association will host national convention next June in State College.



Commissioner Leffler Named to Nat'l Conservation Committee

Ross L. Leffler, long-time member of the Pennsylvania Game Commission and Chairman of the National Scout Conservation Committee, Boy Scouts of America, recently accepted appointment to the National Advisory Committee on Conservation. This Committee, first formed in December, 1947, serves as a continuing focal point for the exchange of views between the United States Department of Interior and organizations and individuals interested in conservation. The committee also provides a vehicle through which the ideas of conservationists can be conveyed to the Secretary of the Interior at one time, rather than separately through every organization interested in that field. Committee members, however, do not represent the organizations to which they belong but merely serve in the capacity of individuals and advisors. Mr. Leffler accepted an appointment from Secretary of the Interior Douglas McKay on July 29 for a three-year term ending June 30, 1958.

Wildlife and Game Fund Benef From Timber Sales

The sale of wood products fro State Game Lands in the fiscal ye ending May 31, 1955, brought $68 868.26 into the Game Fund. Incon from the same source in the ye previous totaled $51,827.73.

In the last fiscal year timber cu tings on these lands, under contrac and permits issued by the Game Cor mission as part of its managemer plan, were in round figures as fo lows: 2,324,000 board feet of sa timber; 598 tons of mine timbe 6,880 cords of paper and chemic wood; 80,000 posts and mine prop and 13 cords of firewood.

In an area where cutting is to l done the timber is first cruised, the competitive bids are received. Whe wood products are removed fro State Game Lands the operatio comes under the supervision of th District Game Protector. The r moval of large trees in heavi wooded sections allows sunlight reach the forest floor. This causes a increase in sprouting and the repr duction of low food and cover pr ducing shrubs and vines, which a beneficial to wildlife.

Forests and Waters Opens Additional Acres to Hunters

M. K. Goddard, Secretary, Pennsylvania Department of Forests and Water today announced the opening of 45,191 acres of undeveloped land in nin state parks for the 1955 hunting season. This is an increase of 7,176 acr over last year's acreage.

The locations of these State Parks are: Big Pocono in Monroe Count Blue Knob in Bedford County; Cook Forest in Clarion, Jefferson and Fore Counties; French Creek in Berks and Chester Counties; Hickory Run i Carbon County; Laurel Hill in Somerset County; Raccoon in Beaver Count Ricketts Glen in Sullivan and Luzerne Counties; and Tobyhanna in Monro County.

The different areas will be posted with signs to clearly indicate whe hunting is permissible, and individual State Park maps showing permissib hunting areas may be secured at park offices or by writing to the Departmer of Forests and Waters, Division of Recreation, Harrisburg.

Secretary Goddard cautioned the hunters "to use extreme care with fir arms and archery equipment since these are public park areas."



PENNSYLVANIA SCIENCE TEACHERS met at Indiana State Teachers College last summer in two-day conference centered on conservation education. Headed by Herbert H. Reichard, Allentown, the Association is preparing a comprehensive manual on teaching conservation. Professor John F. Lewis of the College heads committee at work on text.

Seek Answers To Game Food Problem

In some northcentral Pennsylvania areas repeated burning and overbrowsing by deer have destroyed almost all the food and protective cover so necessary for the prosperity of wildlife. These barren areas now support only a few game birds and animals where large numbers once provided recreation and the delicious rewards of the hunt.

The State's wildlife people are experimenting with food-bearing plants to replace these necessities. Scrub oak acorns, for example, have been planted in Elk and McKean Counties by research men Stanley Forbes and C. R. Studholme. In sections where the oak plantings have been made small portions have been fenced to measure the effect of deer damage on the growing trees.

Acorns collected by Game Commission research men are now producing seedlings in the agency's Howard Nursery. Thousands of these will be planted in the food-poor areas next spring.

Does Hunter Safety Training Pay Off?

The California Department of Fish and Game thinks so and has published the figures to prove it, the Wildlife Management Institute reports.

"How effective is hunter safety training in making safe hunters?

"Recently compiled figures on 1954's hunting casualties show that three youths out of the 17,000 who took the State's hunters safety course last year are known to have been involved in shooting accidents.

"This was one out of every 5,675 who took the course.

"Of the 12,500 hunters under 16 years of age who had been licensed in a previous year and did not have to take the course, 43 were involved in accidents—one out of every 290.

"Youths who had hunter safety training were 19 times safer than those who did not have the training."

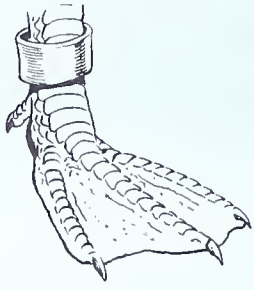
HUNTERS ATTENTION!

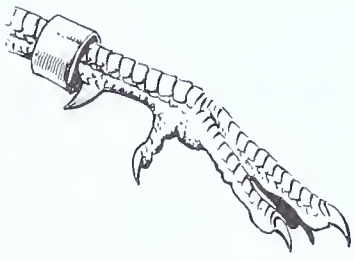




PLEASE HELP US MAKE BETTER HUNTING FOR YOU!

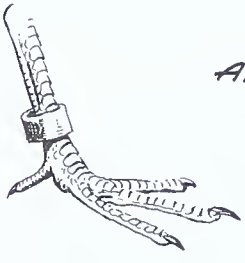
WE BANDED THE WILD DUCKS WE RELEASED —



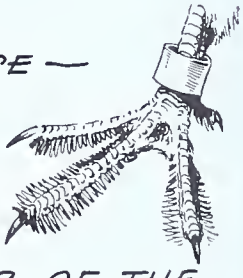


AND SOME RINGNECKS —

WE LIVE-TRAPPED AND BANDED A BUNCH OF WOODCOCK —



AND A FEW GROUSE —



AND WE TAGGED THOUSANDS OF THE RABBITS WE LIVE-TRAPPED AND MOVED INTO OPEN HUNTING TERRITORY LAST YEAR—



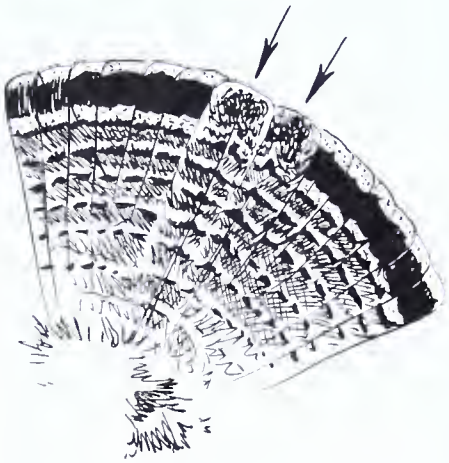
WE SPENT YOUR MONEY DOING THIS BECAUSE

IT IS THE BEST WAY OF FINDING OUT MANY THINGS- HOW LONG THEY LIVE, HOW FAR THEY TRAVEL AND WHERE THEY GO, HOW MANY ARE KILLED BY HUNTERS DURING THE SEASON, WHEN AND WHERE THEY SHOULD BE RELEASED, AT WHAT AGE SURVIVAL IS BEST, AND MANY OTHER FACTS.

THIS INFORMATION CAN MEAN BETTER HUNTING FOR YOU, AND WILL IF YOU SEND IN YOUR BANDS AND TAGS. DO IT THE SAME DAY YOU GET ONE.

ONE MORE THING!

WE WOULD LIKE TO HAVE THE GROUSE HUNTERS SEND IN THE WING TIP AND TWO CENTRAL TAIL FEATHERS AGAIN.





THIS WAY WE CAN KEEP ABREAST OF THE GROUSE CYCLE AND DETERMINE HOW SUCCESSFUL THE HATCH WAS THIS PAST SPRING, AND HOW WELL THE YOUNG BIRDS LIVED.

BAGS, TAGS, OR FEATHERS CAN BE HANDED TO YOUR LOCAL GAME PROTECTOR OR SENT DIRECTLY TO:

WILDLIFE RESEARCH DIVISION
PENNSYLVANIA GAME COMMISSION
HARRISBURG, PENNSYLVANIA

NED SMITH

Fast Firing Deer Rifles

By Ed Shearer

DEER hunters in this day and age have the widest choice of excellent rifles and cartridges ever offered in firearms history. Some of these rifles are entirely new designs of various type actions, capable of handling cartridges to fit every situation in the hunting field. But the first thing the tyro deer hunter will note is that there are two schools of thought on what constitutes a good deer rifle.

One group of Eastern deer hunters is wedded to the faster actions that give a quick repeat shot. The "get there in a hurry" boys want a light, fast handling rifle and their motto is "Get on, get the shot away and be ready for an encore." Then you will run into the "kill 'em a mile" boys who wouldn't be caught in camp with anything short of a 400 yard rifle. An extensive check of hunting camp rosters will quickly show that this group is in the minority, far outnumbered by the firepower advocates.

But let's take a look at the average conditions under which deer are hunted in the East and the average range at which they are usually killed. In spite of all the tall tales you may have heard, 85 percent of our Eastern white-tails are killed at ranges varying between 25 and 75 yards. About 90 percent of these deer are shot when they are standing, walking or sneaking. This is not to say that you never get shooting at white-tails; some of the brothers get plenty of it. But in most cases, this type of shooting results from shoo ing too soon in the first place o bungling the first shot. Experienc nevertheless, seems to bear out th fact that once a deer "gets going, the average hunter is a firm believe in laying down a barrage, hopin some venison will run into it.



In view of the great publicity give to firepower or sheer rapidity of r peat shots, the new hunter (and som not so new) is apt to be misled. S let's take the matter apart and se what gives. Firepower is a term firs used by our military forces to desig nate the rate of speed at which weapon should be fired against fort fied positions or a mass of enem soldiers. When rapid fire is use against scattered targets, especially i a type of country affording cover, th results in target hits is far from sati factory. Looking over these batt records, the hunter should realiz this: If he had the same proportio of hits as the military under simila conditions, his most valuable piece o equipment would be a can opene

In the available sporting rifles, th semi-automatic or the double barre rifles win top prizes for sheer spee of fire. Next come the pump an lever actions, with the bolt actio bringing up the rear. But in effectiv or aimed speed of fire, the main di ference between the semi-automati pump or lever action is largely matter of the operator and the ca tridge used. The villain in this cas is recoil. There is no escaping th fact that it takes a definite time t recover from recoil and restart th gun swing to pick up the target.

For example, take a crack skee squad shooting doubles, using variety of semi-automatic, pump an



PGC Photo by Cady

MOST PENNSYLVANIA DEER which are bagged by hunters are shot when they are standing, walking or sneaking.

double barrel shotguns. You could lose a lot of money betting that, blindfolded, you could name the type of gun being fired simply by the cadence of the firing. Remember, too, that the skeet shooter can figure on an error of aim that would be ruinous to a rifleman. The rifleman must realign his sights with precision, the degree of which is determined by the size of his target. This operation consumes more time which further cuts down the effective rate of fire between various actions.

Boiled down, it amounts to this. No rifle action is any faster than the man firing it. An expert rapid fire shooter can fire a hand operated action and get hits as fast or faster than a novice can fire a semi-automatic or double barrel firearm. For example, take Ad Topperwein, the great exhibition shooter. For years a Winchester Model 1892 lever action in 32/30 caliber was his favorite weapon in a good part of his program. He would toss up a small wooden block, break it on the first shot and then hit two or three of the pieces as they fell to the ground.

The truth of the matter is that all types of rifles can be fired faster than they ever should be at game. Few hunters ever spend the time, work and money necessary to acquire enough skill to shoot any good modern repeater at its full effective speed. So it appears that firepower in itself is just another delusion and a snare to trap the unwary. As far as the woods is concerned, the really vital thing was summed up for me when I was just a sprout by an old-timer whose kill went into the hundreds. He told me, "If you are figuring on killing a deer on your third or fourth shot, you won't have much use for that skinning knife. Your first shot is always your best shot. After that, they get poorer and poorer—fast. Make the first one good and you won't need any more. And if you can't hit anything in the first place, it don't make any difference how fast you shoot."

Now consider the actual conditions

under which the woods hunter will do a good part of his shooting, especially if he hunts with a group. To start with, there is no more self-effacing citizen in the big woods than a whitetail buck, especially when he makes up his mind someone is trying to collect a steak off his anatomy. He knows all the thickest and most inaccessible cover in his bailiwick, and with the continual howling, shouting and banging going on—there is where he stays.

If you yearn for a pair of horns to hang on the wall, somebody has to dig him out of the thick stuff. This the average group of hunters tries to do. As you will be the "dig-ee" part of the time, here is where you learn what rifle is best for your hunting. The footing will probably be rough and rocky and maybe on the steep side. You will be parting brush with one hand while trying to keep the rifle in position for a fast shot with the other.

BRUSH SHOOTING requires a short, light rifle that can be handled easily and safely. It should have "pointability" and be as streamlined as possible.



Any brother who has tried th using the rather heavy, long ran rifle with a brush catching supe structure in the form of a telesco sight, (which adds more weight ar nothing to balance), is seldom happ He learns that a fast firing rifle is short, light rifle that can be handl fast enough to allow you a small i terval of time to steady your fro sight on a rapidly disappearin target for that all important fi shot. Here is where a fast action at its best. A solid hit may slow put the animal down momentar and the fast action may give you th small interval for a second aim shot before cover intervenes.

So here are some things to look f in a fast firing woods rifle, keepi in mind that it will seldom be us at over 150 yards and usually be us at 75 yards or less. The rifle shou be light, say 6½ to 7 pounds, wi good balance and be short for ve fast handling in thick cover. should have another thing that vital in this type shooting—"poi ability." Manufacturers seldom str this in their advertising because few of their rifles have it. You wou not take a poor pointing shotgun the brush for birds and the sa thing goes for a rifle.

Balance is important, too, as nearer you get the gun weight tween the hands, the faster it w handle, allowing more time for accurate aim. It should be as n stream-lined as possible so it does catch on brush or clothing when y are in a hurry. As most shooting w be offhand, the stock will be shor and have somewhat more drop th will be found on most bolt act rifles today, which are better sui for sitting or prone shooting. T stock should have enough pitch make the rifle stay put on shoulder, when being operated f It should have a shotgun butt w some type of non-slip butt plate.

The barrel should not be over

inches in length with 20 or 22 inch barrels preferred. Personally I lean toward the 20 inch barrel with medium velocity cartridges. With high velocity cartridges like the 30-06 the muzzle blast, in a short barrel, will knock your ears off. It takes a well seasoned shooter to handle that combination without developing a flinch. The barrel should have very little taper to allow the lowest possible mounting of the sights. The old model Winchesters, Marlins, etc. with their octagon barrels were very good in this respect. Every experienced hunter knows that over-shooting is the greatest single cause of misses in the fast shooting one encounters in the brush. Our modern rifles with their slender tapered barrels and high ramp front sights are particularly bad offenders in this respect.

In brush shooting, open sights are at their best. The front sight should be coarse enough for instant aim. The Redfield Sourdough is a good example among many good ones. The rear sight should have a flat top with notch or whatever is used that is wide enough for side checks. The big aperture receiver rear sights are close to tops. These sights should be shot with both eyes open.

Woods rifles should be sighted to shoot center at 100 yards. Then their trajectory will run around an inch or less. There may be times when only a deer's head will be visible from behind a stump or tree. Some times heavy brush or limbs only give a small space to get a bullet through. That's when you don't want to guess your bullets trajectory. You want it close to your line of sight. It's better to learn to hold over on the occasional long shots.

In cartridges the hunter has a wide selection of velocities, bullet types and weight. Today there is quite a trend toward more powerful cartridges in light weight rifles. This is not an unmixed blessing. In a given weight rifle as the power goes up, the recoil increases which is not so good for the hunter who only fires a box or two of cartridges a year. Savage Arms Company are now chambering all models for the 308 cartridge including a new lightweight model that tips the scales at 6½ pounds. Remington is chambering their 760 slide action and the 740 model semi-automatic (not legal in this state) for the 30-06 cartridge. Winchester has a new model 88 taking the 308, 30-06 and a newly designed 358 cartridge. This number shoves a 200 grain bullet along at 2530 foot seconds and a 250 grain slug at 2350 foot seconds velocity. The rifle weighs 6¾ pounds. In addition we have the medium velocity 30/30 and 35 Remington class cartridges to be had in various light weight rifles.

However it is bullet performance that counts and the big problem in the brush is bullet deflection, which causes seemingly unexplainable misses at times. As the result of various exhaustive tests with 22 to 45 calibers at varying velocities and bullet weights, it adds up like this. The factors which tend to make bullets more staple in brush penetration are: great weight, round nose and low velocity. The factors that give poor performance are: light weight, sharp points and high velocity. So everything being equal, a bullet at 2000 foot seconds velocity will go through brush in a more nearly straight line than the same bullet at 3000 foot seconds velocity. Also the heavier bullet goes through brush better than a light one and the round nose gives far more reliable performance than a pointed one.

So the new hunter buying his first rifle would do well to keep the following in mind. In deer hunting you are going to do a whale of a lot of carrying a rifle per shot and in collecting those horns for your den, "It's not what you throw at a deer or how fast you throw it. IT'S WHAT YOU HIT HIM WITH that counts."

Moving Game

By Tom Forbes



HOARFROST covers the fallen crimson leaves of the red maple. The scarlet oak, showpiece of the forest, loathe to shed its gaudy autumn dress, clings stubbornly to its leaves, now shriveled and dull. The early morning sun topping the nearest ridge appears as a hazy cotton ball as yet devoid of warmth. In the stillness of the new day the leaves crackle underfoot and give plain warning to the woodland creatures of a stranger intruding in their domain. Trees stripped of their autumn foliage lose their individual identity and in an apparent common desire to hide their nakedness seem to gather together in huge black formless masses. In this changed and changing scene, the bowhunter lacking the protective cover afforded him during the special archery deer season faces a serious handicap when he attempts to approach within bowshot of game. Tactics which offer the best chance for a shot in October may not be appropriate in December. Nature has changed the scenery of the woodland amphitheater and the cast of actors has changed too.

This is the gun season. Whereas some twenty thousand bowhunters moved through the hunting territory in October, an estimated five hundred thousand deer hunters will move into the deer range in December. The silence which pervades the forested areas during the special archery season is broken now by the crash of rifle fire, shouts of the drivers, and countless lesser noises of hunters moving in the woods and on little used roads and trails. Under such conditions deer become highly nervous and extremely wary. To approach one by stealth is a difficult undertaking in October; and it is an outside chance that conditions suitable for stalking deer will present themselves to the bowhunter in December.

At the risk of being labeled a 'Pot Hunter,' i.e., any hunter on a stand who is not a member of your hunting party; the bowhunter probably enhances his chances if he will station himself within easy bow shot of a known deer trail and have the patience and fortitude to remain quietly in concealment even under adverse weather conditions which may be expected during this season of the year. Choose a location which permits an unobstructed view of a portion of the trail from your place of concealment and a clear field of fire. You will have to consider the possibility that the deer may be running when it comes into view. The numbers of hunters roaming the deer territory have made the herd high nervous and flushed from concealment a deer's safety lies only in flight. Never take up a position in the trail itself. Any deer can see you as easily as you can spot the deer and will immediately veer into the brush at the side of the trail without giving you an opportunity for a shot. Likewise a deer making use of the trail or intending to do so as an escape route will surely spot you standing in it and instead of turning into the trail from the woods in all probability will leap across the trail and continue its flight without making use of the trail. For a like reason stay clear of stumps which by whatever amount they increase your visibility, also make your silhouette easily seen by the deer.

Hitting a moving target (which

the shot you are most likely to get in the gun season) is the one for which most bowhunters are unprepared. Accustomed to shooting at fixed targets on a field course they have not had the opportunity or been required to develop a shooting technique which will register hits with consistent regularity on a moving target. Suffice to say that to shoot *at* a moving target is to insure a miss unless it be the rare instance when game is coming head on over level terrain or moving directly away from the bowman.

Shooting at a static target the bowman is concerned only with elevation. At a moving target, lead as well as elevation must be considered and they are of equal importance. The correct lead is result of proper evaluation of three conditions; speed at which the game is moving, the distance to the game from the bowman, and the velocity of the arrow in flight. On first thought it would seem that only luck could combine these several conditions and result in a hit. Fortunately however, the speed of the game need cause us no concern. Our method of shooting will provide a mechanical means of taking care of the speed of the animal; the velocity of the arrow in flight can be considered constant over any shooting distance, and consequently there remains only one factor which we will have to evaluate to apply the proper lead. This factor is the distance from the bowman to the target. The bowman has to solve a similar problem for elevation at any distance at which he shoots at a fixed target. He has acquired the ability to perform this feat through practice. By practice on a moving target he can acquire the ability to lead the target by an amount necessary to compensate for the distance from the bowman to the target.

Since the broadhead will be used in the hunting field we should practice with the broadhead arrow. A satisfactory target from which broad-

FIRST DEER BAGGED IN MONROE COUNTY with the bow and arrow was downed by Bill Widmer, East Stroudsburg, on the first day of the 1955 special archery season. Bow hunter used a 55-pound pull bow, three-bladed arrow at a range of 25 yards.

Photo Courtesy Stroudsburg Daily Record



heads can easily be withdrawn, (the principal objection to their use in practice is the difficulty encountered in withdrawing them from the target) can be made by constructing a wooden frame approximately 18″ wide by 24″ in length of 1″ boards. Cover the frame with a 2″ thick well compacted layer of upholsterer's cotton and in turn stretch an outer cover of burlap or canvas and tack it to the sides of the frame. When tightly packed the upholsterer's cotton will prevent the broadhead from penetrating the wooden frame to any considerable depth and the arrow will be easy to withdraw from the target. Install two pulleys on the back of the target frame entirely protected by the frame so that they cannot be struck by arrows. This target will run on an inclined wire stretched tightly between two posts.

To hit a moving target the bowman brings the bow to a full draw behind the moving target and swings the bow across and out in front of the target. This act of moving the bow across and out in front of the target automatically takes care of the rate of speed at which the target is traveling. The arrow is released at a point in front of the target which will permit the arrow to travel t this point and arrive at the same ir stant the target reaches it. At th moment of release the bow arm mus be swinging across the bowman front. Any attempt to stop the bo at the instant the arrow is release nullifies the entire shooting tech nique. The bow arm should follo through and continue swinging unti the arrow is well on its way to o better still has arrived at the targe The motion of the bow arm is simila to that made by drawing a horizonta line on a vertical surface with th outstretched arm.

Using this technique the archer will quickly acquire the knack o hitting a moving target since th arrow, unlike the bullet, is visabl in flight; a decided help in correc ing errors of judgment of the amoun of lead necessary to score a hit.

There is a good chance that th large number of gun hunters in th woods during the open deer seaso in December will move the deer i your territory to the extent that on will travel past your stand. Don't de pend entirely on a standing sho Learn to hit a moving target and in crease your chances of bringing dow a buck.

New Chart Aids Conservation Teaching

A new method of teaching conservation to children of grade scho level was recently made available by the Sport Fishing Institute. It consis of a 28 x 44 inch chart in full color and a 15-page text. The chart sho two valleys. In one of them the people take good care of their natur resources—soil, water, forests and wildlife. In the other these resources a misused. With the chart are gummed pictures of 22 different kinds o animals. These are cut out by the children and placed on the chart directed in the text book.

In simple, easy-to-understand language the text tells about the tw valleys and what happened when the people in "Mudville" and "Drabtown failed to take care of the natural resources. The final section, called "Abou Your Valley," suggests things to do to learn more about use of the resourc of the valley in which each child lives.

The Conservation Chart may be obtained for $.60 per single copy (di counts on larger quantities) from the Sport Fishing Institute, Bond Buildin Washington 5, D. C.



OUTDOOR FUN WITH A FUTURE



Bird Feeders and Winter Shelters

By Ted S. Pettit

WINTER is likely to be a "dead" season for many of us with outdoor hobbies. When the snow flies or the days are just too nasty to make being outdoors a pleasure, we wander around the house trying to find something to do that has some outdoor flavor.

Guns have long since been oiled and put away with care. Fishing tackle has been checked over so much that you're tired of looking at it. In this slack season many outdoor hobbyists find an outlet for their energies by watching birds that come to their yard to feed—or in feeding game birds that may have a hard time finding natural food in fields or woods.

But you have to start planning now. It takes time to build feeders and set them up in the right places. It takes time for birds to find them and to become accustomed to using them everyday.

Winter Song Birds

Get started feeding birds as early as possible with a few simple feeders. Keep them well stocked and as they become used regularly, substitute more elaborate, permanent feeders.

As a starter, have two feeders to hold suet and two to hold seeds, or one combination feeder that will hold both suet and seeds.

The simplest kind of a suet feeder is a wire soap dish that you can buy for 25¢ or so in any ten cent or hardware store. This is a soap dish that resembles a small wire basket, and is about an inch deep, four inches wide and six or seven inches long. On each end are springs that are intended to be stretched around the faucets in the kitchen sink.

Use a piece of wood about twelve inches long and five inches wide, and an inch thick. About half inch from each end of the board, and in the center of the board, screw in a small hook. Stretch the springs of the soap dish around these hooks so that the open top of the soap dish is flat. Fasten the board securely to a tree or clothes post about head height above the ground. Place suet in the dish.

Another easy-to-make suet holder is a piece of natural wood (the bottom 18″ of an old Christmas tree or other log) or a 18″ long piece of 2″ x 2″. Use a one inch or three quarter inch wood bit and drill three or four holes in each side of the wood, about an inch deep. Stuff suet in these holes. Fasten a screw eye in the end, and hang the wood from a branch or on a clothes pole. If you use a piece of 2 x 2 that is planed smooth, saw some grooves around the piece of wood so that the birds have a place to cling as they feed.

The easiest kind of a seed tray is

a piece of board about two feet long, ten inches wide and an inch thick. Get some lath or similar wood two inches wide by ¼" thick and nail it around the edge of the board so that the seed will not blow off. Fasten this board to your outside window sill, or to a pole or tree in the yard. Sprinkle seed of various kinds on the board.

Here are a few general rules to follow in feeding birds:

Once you start feeding birds, keep it up all winter. Once birds become accustomed to feeding in your yard, they will rely on you for winter food.

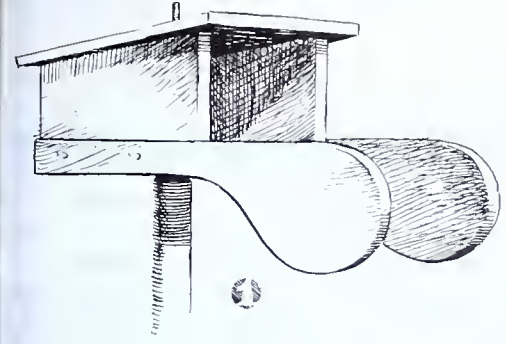
Place your feeders near, but not in, shrubs, trees or other places where birds can hide. Many birds are too wary to venture far from cover. They will not fly too far into the open to feed. Those that do, need cover to fly to in case a cat or hawk happens by and trys to catch them:

Try a variety of food until you find a combination that attracts the largest number of birds. You will soon find that certain foods are preferred by birds and that you can almost select the birds that you want by putting out the right kind of food.

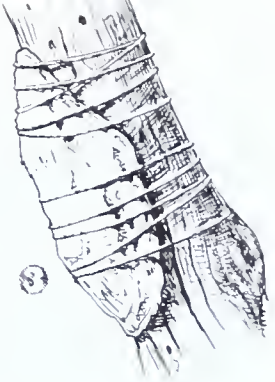
Generally, the birds that will visit your yard in the winter are of two kinds: Those that eat seeds and those that eat insects. What this means is that seeds of various kinds in feeders will attract some birds, and suet will be eaten by others.

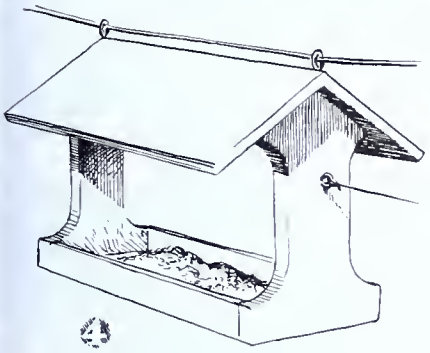
This chart will serve as a guide to the kind of feed to put out for different birds:

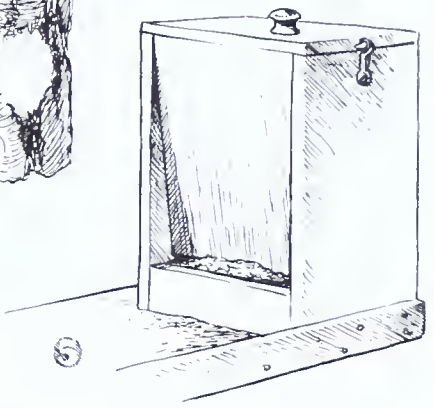
Winter foods	Birds that may be attracted
Mixed seeds (hemp, millet, kaffir corn, cracked corn, etc.)	Cowbird, grackle, red-wing, fox sparrow, white-throated sparrow, tree sparrow, song sparrow, field sparrow, vesper sparrow, catbird, brown thrasher, hermit thrush, purple finch, pine siskin, goldfinch.
Sunflower seeds	Evening grosbeak, pine grosbeak, cardinal, goldfinch, chickadee, nuthatches, purple finch, blue jay.
Cut up pieces of fruit, (apples, banana, etc.) wild fruit such as bayberry, currants	Brown thrasher, robin, hermit thrush, catbird, bluebird, downy, hairy and red-headed woodpeckers, flicker, myrtle warbler.
Suet	Downy and hairy woodpeckers, red-breasted and white-breasted nuthatches, chickadee, flicker, tufted titmouse, blue jay, brown creeper, some sparrows, golden-crowned kinglet, red-winged blackbird.
Peanut butter, nutmeats	White-breasted nuthatch, downy woodpecker, chickadee, blue jay, tree sparrows, fox sparrows, tufted titmouse, purple finch, pine and evening grosbeaks, cardinal, catbird.
Breadcrumbs, doughnuts, cold cereals	Brown thrasher, catbird, blue jay, chickadee, purple finch, sparrows, junco, tufted titmouse, cardinal, downy woodpecker, carolina wren.











Get a board about two feet long, ten inches wide and an inch thick. Drill some one inch holes through the board. Get some of the small paper cups that restaurants use to serve jelly for toast. Place the cups in the holes and nail the board to the windowsill or to a tree or a post.

Put a different kind of food in each cup. Check the board every few hours to see which food birds eat first, which cup is emptied next, etc. In that way, you can tell which food birds prefer, and which kinds to put out to attract certain birds.

Squirrels and Cats

Many bird watchers who start backyard feeding find that squirrels discover the feeders very quickly and eat up all the food before birds can get at it. They also will scare away birds. Cats sometimes will visit feeders and lie in wait for birds, trying to catch them as they come looking for food. Cats may even climb poles or trees and scare birds away.

The answer, in part, is to put smooth metal around the pole or tree so that the cat or squirrel cannot climb up. Use old tin cans or piece of sheet metal and tack it around the tree or pole in a band about fifteen or twenty inches high, so that the animals cannot get a grip with their claws and climb over it. Place the band high enough so that the animals cannot jump over the metal and get a grip on the wood above it.

Another stunt is to place feeders on top of poles made from old pieces of pipe.

Squirrels frequently can jump to feeders that hang from trees, or from a tree to the pole on which the feeder is located. To make this impossible, get a piece of sheet metal and cut it in the shape of a big circle—two feet in diameter. Cut a slot from one edge to the center of the circle. Then bend the metal until it forms a flat cone and fasten it with rivets or screws and nuts. Run the wire that holds the feeder through the center of the cone, so the cone forms a roof over the feeder. It will help to keep squirrels away.

Feeding Game Birds

Sometimes in winter, ice storms will cover the countryside and coat weeds and shrubs with a layer of ice

that prevents pheasants, quail or grouse from finding food. When this happens it is frequently too late for you to do anything about it. By the time you can provide emergency feed, the birds may have already died of exposure or starvation. It takes time for birds to find feed you put out and get used to feeding on it daily.

So start now and build some shelters in the woods and field borders. Spread them around to cover as large an area as possible. Stock them regularly, and sparingly. When natural food is available it is best for birds to eat it. Put out just enough to keep them coming to your shelters but not enough to supply all their needs. Then when ice or deep snow comes you can put out much more to fill a greater part of the birds' needs when they cannot get natural foods.

Shelters for game birds are simple affairs, and may be made from a variety of natural materials. Three or four poles arranged like a tepee, lashed at the top and stuck in the ground so they will not blow over, make a good frame. Cover the frame with cornstalks, spruce or pine boughs, long grass or anything else that will shed snow. One side of this tepee (the side away from the prevailing winter wind) should be open and there should be a space inside that is at least three feet square. Place corn and other seeds inside, where it will stay dry, and where the birds can find it.

Such shelters should be placed near escape cover—that is, in fence rows or hedgerows, patches of briars or brush, or along woodland edges where the birds can find shelter should an enemy appear.

One problem with winter feeding is that it concentrates game birds, or songbirds, too, for that matter. Naturally, most birds do not feed in flocks or at the same place at the same time every day. This unnatural concentration of birds frequently attracts predators—hawks, cats or foxes The predators too, are looking for an easy meal. They find it where birds are in flocks and feeding.

Building a number of shelters and spreading them over an area helps overcome this problem too. It helps avoid concentrating birds in one or two places and spreads them over a larger area so that it is more difficult for predators to find them.

Natural Foods

Generally, birds prefer natural foods to the kind that may be put out for them. Natural foods too, supply more of the elements that they need for a healthy life. In nature, in winter, game birds eat seeds, fruits and nuts from a wide variety of plants. This suggests two projects; one of which you can do now, and the other to do next spring.

Right now you can collect a variety of weed seed heads; wild fruits such as sumac, dogwood, wild grape. hawthorne "apples" etc.; and nuts such as hickory, acorns or beechnuts. Collect as many as you can and save them until winter. Put them out in shelters along with corn. Check carefully and find out which of these foods the birds eat first and in the greatest quantity.

Next spring, try to plant some of these shrubs so that in the course of time there will be a larger natural food supply for game birds.

Wildlife experts know that winter food is one of the most important things that limit the number of game birds that live over the winter to breed in the spring and produce a crop of young that provide sport during the hunting season.

You can help your own sport by finding out as much as you can about birds' feeding habits, and by providing the food they need. Your fun in the future depends largely on what you do now.

Pennsylvania Official 1955 Open Seasons and Bag Limits

(Regulations apply for Hunting License Year, September 1, 1955-August 31, 1956)

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game and other wild birds or animals on October 29 will be 9:00 A. M. Otherwise, shooting hours daily are from 7:00 A. M. to 5:00 P. M., but from July 1 to September 30 inclusive, 6:00 A. M. to 7:30 P. M., excepting the hours for the October archers' deer season which are 6:00 A. M. to 5:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS		OPEN SEASONS	
LAND GAME (Small game possession limits below)	**Day**	**Season**	**First Day**	**Last Day**
Ruffed Grouse	2	8	Oct. 29	Nov. 26
Bobwhite Quail	4	12	Oct. 29	Nov. 26
Wild Turkeys	1	1	Oct. 29	Nov. 26
Ringneck Pheasants, males only	2	8	Oct. 29	Nov. 26
Rabbits, Cottontail	4	20	Oct. 29	Nov. 26
Squirrels, Gray, Black & Fox (combined)	6	24	Oct. 29	Nov. 26
Squirrels, Red (closed October 1 to 28 incl.)	Unlimited		All mos. (except Oct. 1-28)	
Hares (Snowshoe Rabbits)	2	6	Jan. 2	Jan. 7, 1956
Raccoons	Unlimited		Unprotected	
Woodchuck (Groundhogs)	Unlimited		Unprotected	
Muskrats	Unlimited		Unprotected	
Bears, over one year old, by individual	1	1	Nov. 14	Nov. 26
Bears, as above, by hunting party of three or more..	2	2	Nov. 14	Nov. 26
DEER: Bow and Arrow Season—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal (requires hunting license and Special Archery License), by individual	1	1	Oct. 10	Oct. 22
DEER: Regular Season—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, by individual..			Nov. 28	Dec. 10
DEER: Antlerless Season—(requires hunting license and Antlerless Deer License), by individual			Dec. 12	Dec. 13

NO OPEN SEASON—Hungarian Partridges, Hen Pheasants, Sharp-tailed Grouse, Cub Bears, Elk, Spike Bucks with antlers less than three inches long, and Otters.

FURBEARERS:				
Opossums and Opossums	Unlimited		Unprotected	
Minks	Unlimited		Nov. 5	Dec. 31, 1955
Muskrats (traps only)	Unlimited		Dec. 3	Jan. 28, 1956
Beavers (traps only) state-wide	4	4	Feb. 15	Mar. 5, 1956

SPECIAL REGULATIONS

POSSESSION AND TRANSPORTATION LIMITS of legally-killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1955 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during Bow and Arrow Season, issued only by the Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued only by County Treasurers, at a fee of $1.15, and valid only in the county for which issued. Farm occupants permitted by law to hunt without a license may also hunt for antlerless deer during the Antlerless Season on the same land as for other game. See Digest issued with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a Nonresident prior to November 12, or after December 11, 1955.

BEAVERS—No trapping at Commission-posted dams. Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. Pelts must be tagged within 10 days after season, and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers not to be placed, staked or set before 7:00 A. M. on the first day of the open seasons. The season indicated for Trapping closes at 12:00 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (July 1, 1955)

1955 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

SPECIES	OPEN SEASONS FIRST DAY	OPEN SEASONS LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 29	25	25	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Rails (except Sora) and Gallinules	Sept. 1	Oct. 29	10	20	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Woodcock	Oct. 1	Nov. 9	4	8	Oct. 1 to Nov. 9	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
NO FEDERAL STAMP REQUIRED TO HUNT SORA, RAILS, GALLINULES, WOODCOCK, JACKSNIPE AND DOVES.						
Wilson's or Jacksnipe	Oct. 1	Oct. 15	8	8	Oct. 1 to Oct. 15	½ hr. before sunrise to sunset
Doves	Sept. 15	Oct. 19	8	8	Sept. 15 to Oct. 19	½ hr. before sunrise to sunset
Ducks (including American and Red-breasted Mergansers)	Oct. 10	Dec. 17	4 (only 1 Wood Duck) (only 1 Hooded Merganser)	8 (only 2 Wood Ducks) (only 1 Hooded Merganser)	Oct. 10 to Dec. 17	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Geese (except Snow)	Oct. 10	Dec. 17	2**	4**		
Coots	Oct. 10	Dec. 17	10	10		
Brant	Oct. 10	Dec. 17	6	6		

FEDERAL STAMP REQUIRED

The season for waterfowl in the Counties of Bucks, Philadelphia and Delaware, and on the Delaware River bordering such counties, shall be Oct. 29 to Jan. 6, 1956, inclusive.

MIGRATORY BIRD HUNTING METHODS

Permitted: Bow and arrow, or shotgun not larger than 10-gauge, fired from shoulder (including hand-operated and semi-automatic repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat; sailboat or other craft. Shooting is permitted from a boat or other craft having a motor attached if such craft is fastened within or tied immediately alongside of any type of stationary hunting blind.

Prohibited: All rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat. Waterfowl, coot, gallinules and doves may not be taken under any circumstances by the aid of salt, or shelled or shucked or unshucked corn, wheat, or other grains, or other feed or means of feeding similarly used to lure, attract, or entice such birds to, on, or over the area where hunters are attempting to take them. As used herein the terms "salt, or shelled or shucked or unshucked corn, wheat, or other grains," or "other aquatics), flooded standing crops, flooded harvested crop lands, or, in connection with the hunting of waterfowl, coot and gallinules, grains found scattered solely as a result of normal agricultural practices, or, in connection with the hunting of doves, grains found scattered solely as a result of normal agricultural harvesting. Waterfowl may not be taken by means, aid or use of cattle, horses or mules and no motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING

It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock, Wilson's or Jacksnipe and Doves.**

* Possession 90 days after close of season where taken.

** Not more than 2 geese of any kind (except Snow Geese) in a straight or mixed bag a day, or 4 singly or in the aggregate in possession.

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TO zoology

PENNSYLVANIA

Game News

EMBER, 1955 TEN CENTS





THE STORY BEHIND THE COVER

REMEMBER that big tom turkey which was out-smarting the hunter on our front cover about a year ago? Well, the one being proudly displayed on this month's cover was just as smart. But this time Sam Metz, of Peters burg, Huntingdon County, was just a bit smarter.

Traditional symbol of Thanksgiving, the wild turkey is fast becoming the *piece de resistance* with which to grace the Christmas festive board as well Certainly no other game bird is more truly American and more appropriate to the season.

As an increasing number of Pennsylvanians take to the tall timber in search of this big bronzed beauty, the challenge of this particular kind of hunting is casting its magic spell far and wide. Where the whitetail deer once was the major attraction on the stage of late fall, now the "gobbling ghosts" of the Commonwealth's hardwood forests are gaining almost equa billing in a double feature. In every corner of the Keystone State, the deer camps and commercial accommodations for hunters have felt the impact of this magnificent creature.

What started as a three-day feast in 1621 on a rocky New England shore then was first proclaimed as a national holiday by George Washington in 1789, and was finally established "as a day of thanksgiving and praise" by Abraham Lincoln in the midst of a civil war, today is almost a season set aside to commemorate the rich natural heritage of America. And as Lincoln said in a message as timely now as then, "The year that is drawing towards its close has been filled with the blessings of fruitful fields and healthful skies To these bounties, which are so constantly enjoyed that we are prone to for get the source from which they come, others have been added which are o so extraordinary a nature that they cannot fail to penetrate and soften ever the heart which is habitually insensible to the ever-watchful providence o Almighty God."

Yes, in a season of thanksgiving and praise, of appreciation for a land of liberty and beauty, it is good to proudly pursue, gratefully enjoy and skilfully serve the big wild bird which keynoted that first Thanksgiving Day long years ago. Pennsylvania's wild turkeys have once again become the true symbol of a happy holiday.

PENNSYLVANIA Game News

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Pennsylvania Game Commission
Commonwealth of Pennsylvania
GEORGE M. LEADER, *Governor*

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PENNSYLVANIA GAME NEWS

Will Johns .....Editor
Zelda Ross .....Circulation

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By
Delbert Batcheler

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EDITORIAL . . .

Peace on Earth

THIS is the season of the year when a tired, worried world always seems to be a happier, more restful place in which to work and play. Somehow, in some mysterious and age-old way, the spirit of giving and forgiving shines in the eyes and actions of people everywhere.

This wonderful holiday spirit radiates from almost all—prince and pauper, the mighty and the meek, the old and especially the young. And perhaps it is caused because this is a time when most people are able to escape the stress and strain of modern day living. For real human happiness and contentment can best be seen in those who withstand today's frustrations, social complexities and mental conflicts. Christmas is always a reflection of that true human nature and of its Creator.

But what of the rest of the year?

Contemporary man has conquered many of the organic diseases that plagued his ancestors but he is constantly faced with other ailments less easy to cure. Witness the mass search for peace of mind, confident living and constant happiness. For awhile some people seek relief at parties, sports arenas, movies and television sets—but these do not seem to supply the complete answer. Others resort to aspirin, sleeping pills and artificial stimulants—again all too often with tragic results. But slowly, and in increasing numbers, we have become conscious of the restful, healing influence of the great outdoors—of places wild and free.

The sighing of the wind through the pines, a campfire under the stars, the call of a wild bird at sunset, the proud bearing of a buck deer, the flight of a grouse—all these are wonder prescriptions for psychoses. Yes, we are slowly relearning what our pioneer forefathers took for granted—that Nature can heal our hurts.

Even now, though the hunting seasons are about over, the summer vacation camps closed and the hearth fires warm and magnetic, the outdoors is still inviting, still ours for enjoyment and escape. A winter woods, pure with fresh fallen snow, and a majestic Pennsylvania landscape, quiet and serene in its winter rest, still beckons all who seek a tonic for hyper-tension. Here those who walk and are aware, who partake yet protect, and who appreciate and admire can always find . . .

PEACE ON EARTH — GOODWILL TOWARD MEN

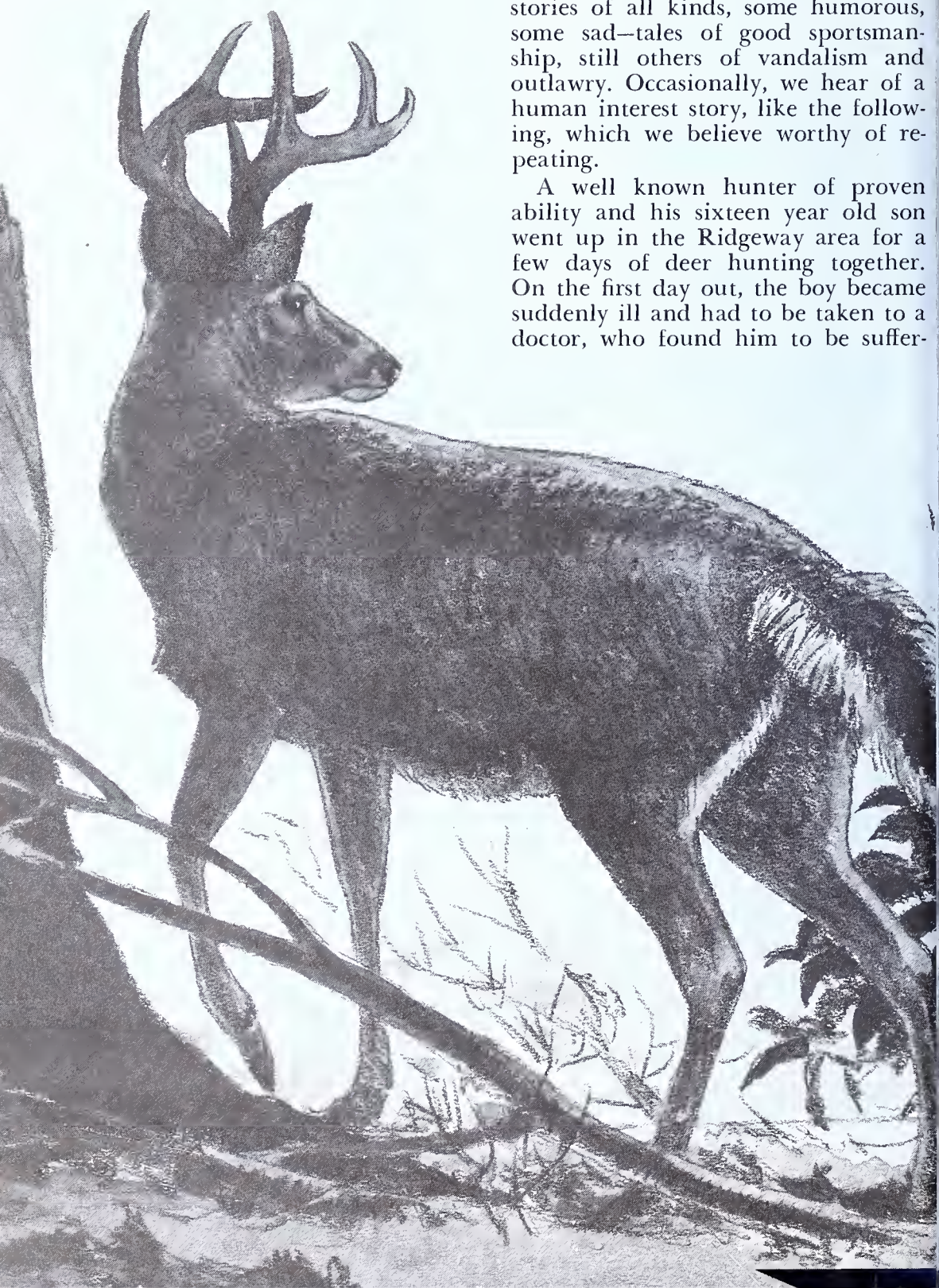


Father and Son

By Eldy Johnston

A hunting season never passes that fails to leave an aftermath of stories of all kinds, some humorous, some sad—tales of good sportsmanship, still others of vandalism and outlawry. Occasionally, we hear of a human interest story, like the following, which we believe worthy of repeating.

A well known hunter of proven ability and his sixteen year old son went up in the Ridgeway area for a few days of deer hunting together. On the first day out, the boy became suddenly ill and had to be taken to a doctor, who found him to be suffer-



ing from a severe case of appendicitis, and advised an immediate operation. As both the parent and the patient desired to reach a hospital near their home and family, if possible, they decided to try and make the 150 mile trip by auto.

As they sped along the mountain highway, the sick boy lying in the back seat saw 4 deer dashing up the steep slope. The driver, intent on the road ahead, hadn't seen them. The boy begged his father to stop and try to get the buck that he was sure that he had seen in the herd, at the same time insisting that he felt much better. So the father, reluctantly backed up to the spot directed, and cautiously made his way up the steep mountainside, gun in readiness. Finally he spotted the head and upper neck of a large buck, looking right at him, out of a dense thicket. Moments passed, and as the deer made no move, the father, from a prone position, motioned the boy watching from the car to join him. The young man laboriously crawled up the slope until he lay beside the older hunter. "Son," whispered the father, "that buck is up in that thicket, looking right at us, take my gun and get a good bead under his chin. It will have to be a perfect shot." The young boy took the gun with shaking hands; perspiration beaded his face as he slowly took aim. Seconds ticked by. "Shoot! shoot! shoot!" urgently whispered the father, by this time as excited as the boy. "Dad, I can't see him very good and I'm shaking too much, I know I'll miss," gasped the boy. "Shoot boy," ordered the older man, "If you



miss, I'll grab the gun and try to get him running." The boy swung on the deer again, hesitated, then touched off his shot. As the gun roared, the youth shoved the weapon to his companion, yelling, "Get him Dad, get him!" . . . "That won't be necessary," replied the father, "that buck isn't going anywhere."

As they approached the fallen deer, a beautiful eight point, the boy surprised his father by gazing heavenward and saying reverently, "thanks God." Then in the next breath exclaiming, "Dad, why did you pass up that deer, the only chance that you will have for another year. I wouldn't have done it for you." The father shrugged off the boy's thanks, saying, "Son, I am more proud of your deer than all of the deer that I have ever shot. Someday you will understand. Besides," he added, "that particular buck was meant to be yours. I never heard of a buck standing in one place so long, just waiting for a bullet. Now, let's get this critter down to the car, and get you to the hospital for that operation," . . . which they did.



Dear Sir:

I am writing for Mallard No. 34,-182 who met with a fatal accident while cruising at 30 yards up. It was an ill wind (to paraphrase a cliche) for him above a marsh at Dunville, Ontario, Canada. The day of his demise was October 1, opening day of the 1955 Ontario waterfowl season. My only complaint is that he was full of "pin" feathers.

Yours truly,
Victor Stapa
Niagara Falls, New York

P.S. Excuse stationary. I have none edged in black.

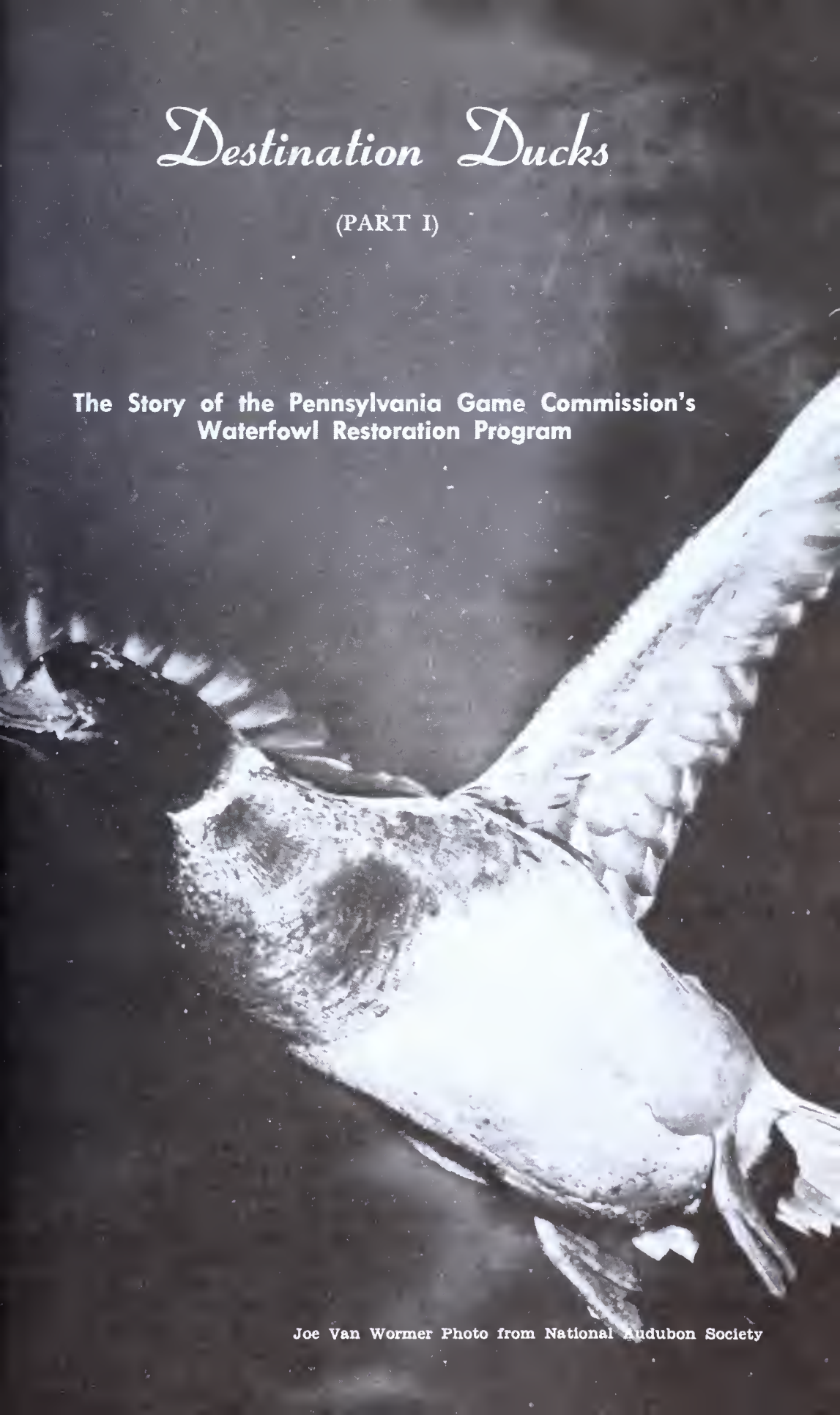
Ed. Note: We checked 'Mallard No. 34,182" with Bob Latimer, the Commission's Waterfowl Coordinator, who keeps records on all ducks banded and released by the Game Commission. Turns out that this "feather merchant" was banded and released at five weeks of age on June 4, 1955. District Game Protector Les Haney gave the bird his freedom on the small pond near the Ross Leffler School of Conservation (State Game Lands 54) in Snyder Township, Jefferson County. The duck had been hatched and reared on the Commission's duck farm in Crawford County, then shipped to the release point. And, as Latimer points out, it's not at all unusual for these ducks to fly north in early fall. After young waterfowl get their flight feathers, they "try them out" on short flights north before joining the regular, long-range migration south with their kind.



Destination Ducks

(PART I)

The Story of the Pennsylvania Game Commission's Waterfowl Restoration Program



Joe Van Wormer Photo from National Audubon Society

FROM the beginning, wild waterfowl winging their way north and south on semi-annual flights have passed over Pennsylvania in countless legions, drawn to their eternal destination by the still unsolved mystery of migration.

On the warm, sunny days of springtime they fly, destined for the Lake Erie marshes, southern Ontario, Great Slav Lake, the eastern shore of Hudson Bay, even the Yukon and the Arctic tundra. Again in fall they come, down to the Pymatuning, the Chesapeake and Mattamuskeet, the cane-brakes and bayous of the Deep South or a winter on a shallow coastal lake in Louisiana.

But through the years, Pennsylvania has been mostly a rest stop for whistling wings tired of beating against limited ceilings and seasonal storms. On clear days, many of the ducks and geese hardly tarry long enough to be noticed. Unlike other regions and other states, the Commonwealth was not originally blessed with an abundance of water. Except for the Delaware, Susquehanna and Allegheny Rivers, a small portion of Lake Erie, and the lakes, ponds, marshes and beaver dams of northeastern and northwestern Pennsylvania, the State has offered migratory waterfowl little in the way of feeding and nesting facilities. Ducks and geese cruising over the Keystone State saw plenty of rich farmland and wooded hills but not enough wetlands to catch and hold their landing gear for very long.

The Pennsylvania Game Commission has long recognized the problem and for more than two decades has been doing something about it. The first step was the establishment of the Pymatuning Refuge in Crawford County in 1935. This refuge now contains 4,145 acres, more than half of them now under water. The area is a portion of the Pymatuning Reservoir Project, a tract of 25,000 acres, 17,000 of which are covered with water.

Originally, wild waterfowl plants and seed were planted annually at the refuge while, during the winter, ducks and geese were fed artifically as required. In 1945 the water level was lowered so duck millet and smartweed could be planted on exposed surfaces. This manipulation of water levels has been a yearly management measure since then as the results proved its value in providing better environment for the ducks and geese using the area.

Elsewhere in the State many natural ponds and beaver dams located on State Game Lands were improved by planting seeds, tubers and plants beneficial to wild waterfowl. Food strips were established close to such areas and planted to the small grains relished by ducks and geese. As funds permitted, sites were located and dams were built to create additional habitat. The more important of these were as follows:

In 1936 a 25 acre marsh pond was constructed on Game Lands #56 in Bucks County, using help obtained through the Works Progress Administration. In 1940 a structure, which impounded 14 acres, was built with Civilian Conservation Corps help on Game Lands #12, Bradford County. Three small lakes, named the Creveling Lakes, were established in 1946, impounding 57 acres on Game Lands #57, Wyoming County. In 1947 Cranberry Glade Dam was built by the Commission. It impounds 112 acres and is located on Game Lands #111, Somerset County. In the same year Alder Marsh Dam containing 40 acres was constructed on Game Lands #159, Wayne County.

Four years later, in 1951, the Commission built the Decker Marsh Dam on Game Lands #183, Pike County. This structure impounds 120 acres. In addition several natural or manmade lakes or ponds were located on lands purchased by the Commission and are included in the Management Program. The more important of these are Bradys Lake on



KEY TO BETTER DUCK HUNTING in Keystone State is more waterfowl habitat. Marsh areas such as this are necessary to not only produce ducks locally but attract and hold migrating birds.

Game Lands #127, Monroe County, containing 207 acres; Upper Woods Pond, Game Lands #159, Wayne County, containing 90 acres; and Sunfish Pond, Game Lands #12, Bradford County, containing 27 acres.

Although the construction of small ponds and lakes was the primary activity over the years, additional water surface and resting areas for wild waterfowl were created by constructing ditches and potholes in marsh areas, usually be dynamiting the selected locations. These depressions rapidly filled with water and were soon being used by wild ducks.

FOR THE PRESENT

In 1954, five small marsh impoundments were completed in the vicinity of Owl's Nest, Elk County. They are located on Game Lands #28 and adjacent Allegheny National Forest land. The smallest impounds 5 acres and the largest 12 acres, all together impounding 38.5 acres.

In the same year, the Game Commission, with the cooperation of the State Department of Highways, also constructed a dam which flooded 550 acres on Game Lands #213, Crawford County. It provides excellent duck and goose habitat, is also used as a nesting area and has good possibilities for muskrat habitat development. Being close to the Pymatuning Reservoir, its value to both waterfowl and hunters is also enhanced.

So far this year (1955), a small marsh pond, impounding 14 acres, has been built and another of 12 acres is nearing completion. These are also in the vicinity of the Owl's Net, Elk County. Still another pond of 11 acres is scheduled for construction in this same general area. Thus a chain of 9 dams, impounding more than 75 acres, will provide suitable nesting, resting and feeding conditions for ducks as well as greatly increase hunting opportunities for waterfowl hunters in this section of the State.

Five other sites for similar structures in the northern part of the State have been approved, and three additional areas are now being surveyed.

MARSH POND SELECTION AND CONSTRUCTION

Reconnaissance

Factors which have influenced the choice of areas for the Commission's waterfowl habitat improvement work center about cost and potential use by ducks and geese. Naturally, construction work should be as economical as possible. For that reason, areas selected should be in small watersheds or on headwaters of larger streams where simple, yet effective, dams can be built. The danger of floods was also taken into consideration. If construction sites were selected "down-stream," they would have to be larger to be flood-proof, thus more costly, and more important, the deep water they would impound would not be as suitable for waterfowl. Ducks use deep water mostly for resting and, during hunting seasons, for escape and protection.

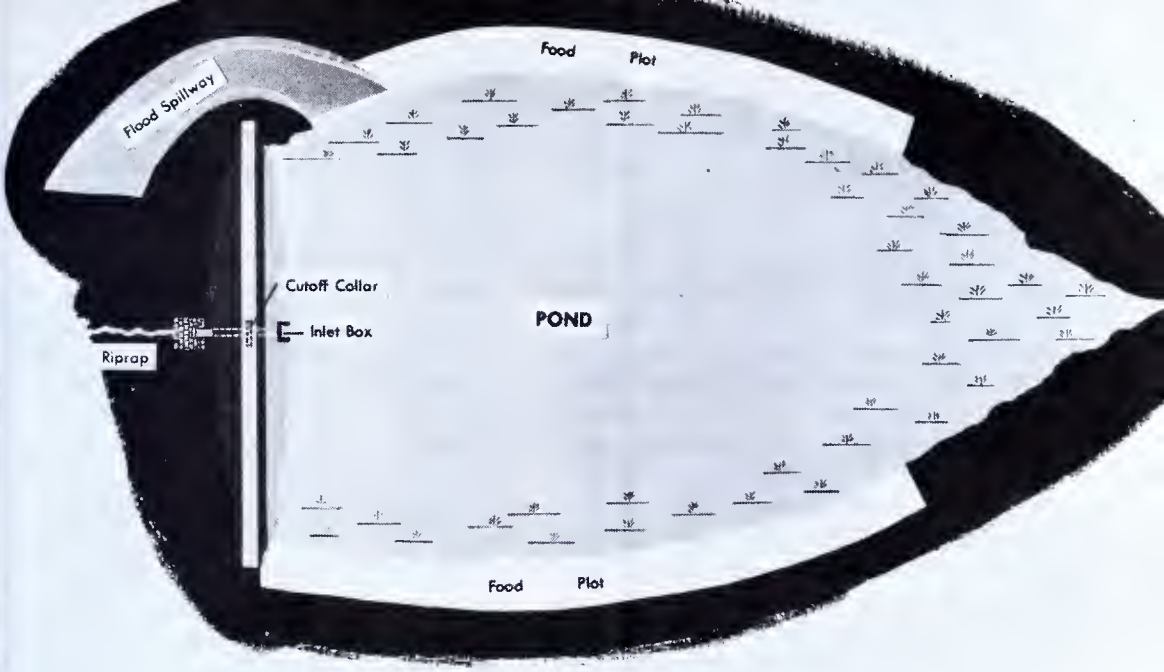
Marsh ponds constructed so far have been near or on migration routes normally followed by waterfowl. In fact, those in northwestern Pennsylvania have been selected to form a "chain" from Lake Erie and the Pymatuning region southward.

When a portion of the State has been selected for a series of marsh ponds, the topography of the Game Lands in that area is examined on U.S. Geological Survey Topographical Maps and aerial photographs. Swamps are usually shown on the topographic maps and the general slope of the ground can be determined by contour lines. These slopes, as well as the type of ground cover (woods, brush, grass, etc.) can also be determined from aerial photos.

The most promising locations are noted and, if the drainage areas are less than one-half square mile, they

SURVEY CREWS EXAMINE EACH IMPOUNDMENT AREA and check construction. Accessibility, soil, slopes and suitable location for the dam are all checked. For best results, pond should have about ten acres of drainage area to one acre of water.





PLAN OF MARSH POND IMPOUNDMENT shows construction of dam, spillways, and proposed food plots along shore lines. Aim in all this construction is to provide the largest area of water and marsh at the lowest cost per acre.

are marked for examination in the field. Sites having larger drainage areas require an impounding permit from the Department of Forests and Waters. For best results, the pond should have about ten acres of drainage area to one acre of water. In any case, the ratio should not exceed 20 acres of cultivated land, 25 acres of pasture, or 30 acres of woodland to one acre of water.

Surveys

Each site is examined for accessibility, soil, slopes and suitable location for the dam. If all factors appear favorable, the site is surveyed to determine accurately the size of the pond in relation to the length and height of the dam. The soil is tested further with a series of bore holes to show the depth of suitable soil and the type of materials below. To be suitable for the embankment, the soil must contain sufficient clay or loam to compact well and make an impervious dam. Also, in the interests of economy, the material must be close to the upper side of the embankment. For embankments over 200 or 300 feet long, the fill material must come from the bed of the pond.

When the survey is completed, it is plotted to scale showing the contours of the pond bed and the area around the proposed dam. From this, the pond acres can be measured for dams of different heights and the costs estimated. The one which will furnish the largest area of water and marsh at the lowest cost per acre is selected. Then a drawing is prepared showing the plan of the pond, with elevations, dimensions and details required for building the dam and spillways.

Spillway Construction

Two spillways are constructed at each dam to carry the runoff. One is a pipe or mechanical spillway to carry the daily flow and the other is a sod spillway to take care of flood water and any runoff that is beyond the capacity of the pipe. Ordinarily, the flood spillway is called upon to carry water only a few times a year and then for short periods only. The size of the spillways are computed from the shape and area of the watershed, average slopes, ground cover and other factors which affect the amount and flow of the water from the watershed or drainage area.

The pipe spillway is constructed of concrete and pipe. It is designed to carry a constant flow of water without erosion. The inlet to the pipe is a concrete box, from two to four feet high, with wooden gates which can be closed or opened to raise or lower the water. The pipe passes through the embankment and discharges on the lower side. From there, the water returns to the original channel. The pipe is corrugated, galvanized and coated with asphalt for long wear. About midway through the embankment a concrete collar is constructed around the pipe to prevent seepage along the outside, and stone riprap is placed at the outlet to prevent erosion. These measures are necessary because experience has shown that, next to overtopping the embankment, most dam failures have started at pipes or structures running through the embankment. For this reason the best material available should be tamped around the pipe and anti-seep collar when making the fill.

The top of the box is placed level with the water level in the pond and three feet below the top of the embankment. Wooden planks fit into slots in the front of the box and can be removed and replaced as desired to hold the water to any level within the range of the box. A rich mixture of concrete, such as one part cement, 2½ parts sand and 3½ parts gravel or equal, should be used to prevent cracking and spalling from frost action and the box should be reinforced with steel bars or mesh.

The flood spillway is graded level around one end of the embankment, in soil that has not been disturbed, and then planted to grass. The bottom should not be less than one foot above the normal elevation of the pond and should be wide enough to carry the maximum flood with one foot of water in the channel. The side slopes are graded at a slope of 4 to 1 (that is, 4 feet out to one foot up) so that power mowers can be used to mow the grass at regular intervals and keep the spillway free from brush.

Embankment Construction

When the dam is approved, the site of the embankment and borrow area is cleared of all trees, stumps, brush and top soil down to mineral soil. This can sometimes be done to advantage in winter. The top soil that is removed is stockpiled and later spread on the embankment and flood spillway. Then stakes are set for the embankment and spillways. The mechanical spillway, including the outlet ditch, is completed first so that water can be diverted through the pipe while building the embankment.

When the spillway is completed, a core trench is dug near the center line for the full length of the embankment, to prevent water from seeping under the dam. If there are no seams of porous material in the foundation, a depth of three or four feet is usually sufficient for dams up to ten feet high. The trench is then backfilled with moist clay or the best material available, deposited in layers about six inches deep and well compacted by traveling back and forth over it with bulldozers or other earth-moving equipment. The material should contain sufficient water to be moist and plastic. Dry material does not compact well nor form a satisfactory bond. Too much moisture is equally unsatisfactory. The right amount is indicated when the fill settles and molds well under the equipment and forms a good bond with the layer below.

When the trench is filled level with the ground, the embankment is started by spreading fill the full width of the base. The best material is placed in the middle third of the fill, directly over the core trench, and carried up to form an impervious wall through the center of the dam. At the same time the rest of the embankment is carried up in uni-

form layers and rolled lengthwise and crosswise to the dam. In this way the embankment is built up, alternately spreading and rolling, to an elevation about 10 percent above the designed height to allow for settling.

As the embankment is carried up, the fill is deposited and graded to form the slopes on each side. At the same time the flood spillway is excavated, the material, if it is suitable, is used in the fill. Otherwise it is spread, leveled and planted for food plots. When the embankment and flood spillway is completed, the top soil which was saved during clearing is spread evenly over the surfaces and prepared for planting. Food plots are also cleared at intervals along the shoreline and extended several feet into the pond.

In order to promote the growth of vegetation on the embankment and flood spillway, to prevent erosion and provide food for game, the soil is treated with 1,000 pounds of 10-10-10 fertilizer and 3 tons of lime per acre. It is then planted with the following mixture: Kentucky Blue Grass—12 pounds; Red Fescue—12 pounds; Red Top Clover—6 pounds; Perennial Rye Grass—10 pounds; and White Dutch Clover—2 pounds; a total of 42 pounds of seed per acre.

It is advisable to leave the gates open in the spillway for several months or over winter if possible to allow the fill to settle and the vegetation to become established before filling the pond.

For the first year the riprap at the outlet of the pipe should be watched and repaired if undercutting occurs on the lower side. Usually this can be done with loose stone. Also the embankment and spillway should be mowed when necessary to develop a good grass cover.

DEVELOPING FOOD AND COVER FOR WILD WATERFOWL

There is little point in constructing a pond and marsh for ducks unless some effort is made to provide food and cover plants. Nature eventually might supply these requirements but it takes far less time and

PADDLE-FULL OF PONDWEED is displayed by Game Protector Ray Sickles. Such aquatic growth is just as necessary for ducks as dams. Culture of aquatic plants for waterfowl was first started at Pymatuning Refuge.

Hal Harrison Photo





MECHANICAL SPILLWAYS are constructed to provide facilities for lowering wate levels at least 12 inches. Each May the water is drained to expose mud flats and mois areas for planting aquatics for waterfowl food and cover.

may be more efficient if man takes over this important part of the restoration job.

While the dams are being constructed, work crews clear strips of land around the high water levels. Here buckwheat and other farm crops utilized as food by migratory waterfowl are planted annually. Later, mud flats and wet areas below normal water levels are planted with seeds and tubers of suitable aquatic plants.

Whether impoundments flood hundreds of acres on large watersheds or a few acres in small marsh areas, control of water levels is important in the management of aquatic plants. Mechanical spillways are constructed to provide facilities to lower the water at least 12 inches. By lowering water levels each May, mud flats and moist areas are exposed for planting Duck Millet, Smartweed and other plants that provide food and cover for waterfowl. After seeds have matured in September, the areas are again flooded, thus making both food and cover available during the fall migration. These shoreline plantings are a necessity where impoundments are newly constructed. Natural reseeding when the water is lowered in later years usually maintains the area in suitable food and cover.

In addition to establishing areas for planting aquatic vegetation and grains, small islands are often constructed on new impoundments to provide nesting sites. These small land areas are seeded to permanent sod. Larger open areas along the shorelines of lakes and ponds are similarly treated, an important management process if nesting is to be encouraged.

Culture of aquatic plants for waterfowl was first started when the Pymatuning Refuge was established and development work has continued over the years. Gradually these management practices have been expanded to improve food and cover for wild waterfowl in and near small

ponds, beaver dams, river flats and newly constructed impoundments throughout the State. Some of the more important food and cover plants used in this phase of the Commission's waterfowl management program and the methods of planting them are listed as follows:

Marsh and Aquatic Plants	Planting Information
Wapato (Duck Potato)	1200 tubers per acre in marshy areas and mud flats.
Wampee (Duck Corn)	Seed 10 lbs. per acre on swampy land or in acid water 6-8 inches deep. (Use only where wood ducks are the principal species).
Wild Duck Millet	Seed 20 lbs. per acre on moist soils and mud flats.
Nodding Smartweed & Dotted Smartweed	Seed 40 lbs. per acre on exposed mud flats.
Sago Pondweed	Plant 1200 tubers per acre on sandy or mud soils—Alkaline water 1½ to 5 feet deep.
Wild Celery	Plant tubers or seed 30 lbs. per acre in 1-6 feet of water. Hard fresh water or slightly brackish.
Wild Rice	Seed 60 lbs. per acre in a few inches to 2 feet of water.
Giant Burreed	Seed 10 lbs. per acre in muddy spots and water less than 1 foot deep.
Water Shield	700 plants per acre in 1-6 feet of water.
Three Square Bulrush	1200 roots per acre in less than 1 foot of water.
Hard Stem Bulrush	1500 plants per acre in less than 2 feet of fresh water.
Duck's Meat (Surface Floating)	5 bushels of plants cover 1 acre of water.

. . . To Be Continued

Maslowski & Goodpaster Photo





A Boy and His First Gun

By John Madson

SOONER or later, the parents of most boys are caught between two fires: a boy, longing for a gun of his own, and the reports of hunting accidents in the newspapers. These parents can't help worrying about the accidents, and whether their sons are really old enough for a gun.

The proper age to own that first gun is a tough thing to decide. Some boys are ready at 12; some are never ready. Most boys of 14, however, are just about old enough for their own .22's. But more important than age is the boy's common sense and sense of responsibility. For instance:

1. Does he show good judgment? Does he make sensible decisions and use his head in most situations?
2. Is he responsible? Does he show respect for other persons and their property? Does he handle money well, carry on his share of work around the house? Can he be depended upon?
3. Is he obedient? Does he mind his parents and follow their instructions and advice? Does he respect their wishes, even though they conflict with his companions' ideas?
4. Does he know what a gun is? Does his attitude toward firearms point to a maturing, sensible view, or is he still in the cowboy and Indian stage?
5. Has he ever handled a gun either with his parents or with other adults? If he has no shoot

ing experience, are you prepared to see that he gets some from a shooter who knows his business?

A boy shouldn't be given a gun and then, like Topsy, "just grow." He may learn gun safety the tragic way. He should be carefully schooled by an adult, experienced hunter and taught guns, gun handling and respect for the safety and property of others. A youngster should never be handed a gun and then turned loose like a wild colt.

Before a boy has his own gun, it's a good idea to take him hunting a few times, making him more familiar with guns and their use. If the boy has never been hunting or shooting and you still think he should learn with his own gun, give him his own gun. But take just the one gun along, or have him carry his gun unloaded until you're ready for shooting. Until he really knows guns and their proper use, don't let him go shooting alone or with other boys.

Sometimes the boy who wants a gun has a non-shooter father. In such a case, perhaps the boy can be instructed by an older brother, an uncle, or a neighbor who knows gun-handling and knows it well. If the father is a sportsman, the situation is ideal—a father-son hunting team is a fine partnership, and both boy and man will learn a lot.

Forbidding a boy the use of guns only compounds the danger of firearms. If the boy is gun-happy he'll probably be out along the river with some other boys shooting and it's best that he knows what it's all about.

Every boy should have some gun training, and it's a rare boy who doesn't want it. Sooner or later, as boy or man, he'll be handling a loaded gun. How well he handles it depends on his parents, his early shooting companions, and his gun training.

Finding that first rifle under the Christmas tree can be one of life's big moments. To the lucky boy, and the dad who gave the rifle to him, we send our heartiest Christmas greetings and best wishes for a lifetime of sport and safe shooting.

Reprinted from the *Iowa Conservationist.*

BIG GAME HUNTERS NEED NOT GET LOST

If more persons who hunt bears or deer in the rugged sections of Pennsylvania would take a few simple precautions there would be fewer cases of lost hunters.

Wildlife authorities recommend: 1. Tell your family the area you will hunt, how long you will stay and where; 2. Learn to use a compass, and carry one; 3. Get a map of the territory you plan to hunt. Study it to learn locations of roads, streams, and other landmarks; 4. Fill your cigarette lighter with fluid, or carry a waterproof container of matches; 5. If lost, have belief in your map and compass. Follow a course in one direction; 6. If lost don't allow yourself to become panicky. Build a fire for warmth, then rest and conserve your energy; 7. If hunting from a car, know where you left it so that you are not still "lost" after being rescued.

These precautions and common sense could have saved discomfort, worry, or even serious results for many a big game hunter in the past.



Gun, Run

MAN + GUN = DANG

How Smart is the White-Tail?

By Keith C. Schuyler.

EVERY step sounded like a pistol shot as my feet broke through the crust, and it had been that way for the past five minutes since I struck the half snowed-in track. But then, not over twenty-five yards away, there she stood!

It was the last day of the doe season several years ago, and I had gone hunting against a busy schedule and my better judgment. For, I had been hunting the day before with my bow and was caught in one of the heaviest deer-season snows in years. A bitterly cold night on top of the deep, wet snow of the previous day gave the deer all the odds. But, here, not fifteen minutes from the car was my shot . . . and this day I was carrying a rifle.

The doe and I saw each other at the same time . . . then she was away with a swift leap to the right that took her behind a hemlock. For a moment she was framed between tha tree and the next, and my .30-.30 so point tumbled her into the snow.

It is instances like this which temp writers who should know better t speak disparagingly of the white-ta deer. Some even go so far as to sa they are *dumb!* The result has bee to rob hunters of rightful pride whe they have made a kill under circun stances which gave the deer a reaso able break.

Instead of admiring the tropl that their skill and perseverance ha produced, they regard the carcass a just so much meat for the tabl They think that, just because th neighbor's 14-year-old shot the bi gest buck of the season last yea maybe there is something to repor that deer aren't too intelligent.

What a slap in the face for one the finest of sporting animals!

Well, fellow, just because yo

didn't need a guide to deliver your 12-point white-tail or spend $1,000 to get to your hunting grounds, don't let the big boys make you feel that your trophy isn't just as fine as any other.

Because, the deer is *not* dumb!

The very fact that the white-tail today thrives in Pennsylvania where more hunting licenses were sold in 1952 than in any other state in the union certainly is no discredit to the intelligence of the deer. True, without the protection and careful management provided by the Game Commission over the years, no big-game species could long survive in this state, but the white-tail's response to this helping hand has been nothing short of amazing.

Those who would attempt to belittle the sport that is available in practically every county of this state have completely missed the mark. And, I think we can prove it.

Let's analyze the "easy" kill described in the opening paragraphs.

With the woods full of hunters, visibility unlimited and no movement possible without creating noise that could be heard for several hundred yards, what would a smart animal do? Especially one which had been driven relentlessly for nearly two weeks and possibly been shot at several times? Would it wildly stampede through the well-populated woods at the first sound, or would it lie tight and let the hunter make the moves?

Although the track I picked was half full of snow, I knew that my deer would not likely go far after the snow stopped in the middle of the night. Any attempt at caution would be silly with the noisy footing caused by the hard crust . . . hard, but too light to support a man or deer. So, I plunged ahead on the track, hoping that the deer would wait to determine whether or not I would come close enough, to chase it from its warm bed through a woods full of hunters, or pass by.

The strategy paid off, but it was no insult to the intelligence of the deer. It was taking a calculated risk . . . and lost. However, it is my bet that plenty of deer were passed close by that day which took the same risk . . . and won. The total kill was extremely light for an antlerless-deer day.

Before we attempt to judge the deer on the basis of the great numbers killed each year, we must first consider the situation in which this animal finds himself today as compared to a comparatively few years ago. As recently as 1910, the white-tailed deer had disappeared from most parts of the East. Centuries of unrestricted hunting both for personal food supplies and commercial marketing had reduced the herds to near extinction despite the fact that the animal had been found in great numbers in every state. The adoption of restrictive hunting laws finally gave the old white-tail a return match. Refuge areas guaranteed that he would never be threatened with extinction again.

And, how well he returned is seen in annual kill reports from our Game Commission. The greatest kill ever recorded in any state was as early as 1940 when 186,575 deer were taken . . . 40,995 bucks and 145,580 does. Three times in the past 14 years the annual kill of white-tails in Pennsylvania has exceeded 130,000 animals!

Failure to adapt themselves to changing environment has been largely responsible for the extinction of various species of birds and animals over the years. Of course, some were gone before man had an opportunity to make laws which would perpetuate the species. However, others still failed to make the grade with man's help although many, like the beaver, the egret and the wood ducks have had remarkable comebacks.

But the most remarkable come-

back of all has been that of the white-tailed deer. He has had to adapt himself to changing food, heavy hunting, and, in many cases, a semi-domesticated existence.

He has lost none of his natural wariness, as many claim. On the contrary, the white-tail has become one of the most clever and talented wild animals afoot. For example, years ago it was generally the standers who made the kills as big drives with 20 or more men were common. Today, about as many deer are shot by drivers as standers when they are picked off trying to sneak back through the drive. Tracks in the snow frequently tell the story of how a buck eluded the hunters who thought they had him surrounded. And, those tracks sometimes show that the animal passed unbelieveably close to the drivers or crouched motionless in the thick laurel until the drivers passed it.

It is seldom during the off-season that deer will venture far from woodland cover in the day time, but a incident to which I was near witne shows how quickly the deer react t the sound of guns.

Several friends of mine had hunte the entire day on the wooded hil about four miles from town, an they were coming home empt handed shortly before the five o'cloc deadline. Within a few hundre yards of the builtup section on th outskirts, they jumped a doe and buck from the center of an open fiel . . . at least two miles from the clo est woods!

It was only sheer luck that brougl them to the deer's bed in the midd of a field of over 100 acres. Had th hunters not stumbled upon those dee by accident, the two animals migl have safely spent the entire seaso hiding out in that broad expanse o open territory. Of course, once th deer were routed, the buck presente an easy target and was downed wit in easy dragging distance of the luck hunter's back door.



Because the normal habitat of the white-tail has grown into timber which will not support large numbers of deer, the animal has been forced to move more and more into farming country. Areas where the appearance of a solitary deer made the front page of the local newspaper 20 years ago now provide excellent hunting. In such areas, the deer practically rub shoulders with humans during about 50 of the 52 weeks in a year. They raid gardens, wander into towns and eat at special feeding stations. Fishermen swarm along the streams throughout the warm months where the deer normally come to drink.

The deer learn that they have nothing to fear aside from the automobiles which kill a few thousand annually. The reputedly wise wolves, bobcats and cougars, natural enemies of the deer, have for the most part succumbed to civilization. Everything is rosy.

Then, "WHAM ! ! !" One day a gun roars and the hunt is on. In the first five minutes of the opening day, hundreds of deer have dropped. But, by noon, the barrage of shots has thinned to an occasional echo. From that time on, they are mighty few and far between.

Of course, the deer have been thinned out by that first barrage and the comparatively easy shooting that comes the first day. But, there are likely more deer shot in the first 15 minutes of the opener than are killed during all of the last two days of the season. They learn fast. And deer are plentiful the following year.

White-tails have even been classed as cowards. This is worse than calling them dumb in my book.

Deer were designed by Mother Nature to provide food for the meat-eating creatures which inhabit this old earth. They were given no special weapons to fight off attackers or to make attacks since their antlers serve chiefly to determine which deer will lead the herd during the rutting season. It is only during the mating season that a white-tail is likely to show fight to any adversary other than males of his kind.

Not being a meat-eater, the deer has no use for weapons to destroy other animals. Instead, he is equipped with strictly defensive armament in the form of fleet limbs, extremely sensitive hearing and an acute sense of smell. Since he can easily outrun most of his enemies, the deer has no need for more than ordinary vision. But, even his vision is alert to any movement despite the fact that his color-blindness makes it difficult for him to identify objects.

All of the deer's special and permanent physical accoutrements are designed for one purpose . . . escape. The fact that he uses them so well is certainly not to his discredit.

Some sneer because a wise old buck will almost invariably allow the females of the herd to lead when danger threatens. It is again a compliment to his intelligence that he does so since experience has taught him that shooting seldom follows the appearance of the lady deer. However, often times the sudden movement or noise of approaching antlerless deer will cause a hunter to move in turn and produce a warning to the hidden buck.

Experienced deer hunters have many stories which prove the intelligence of the animal. They will tell how a smart buck will sneak back through driving hunters without being seen when the hunters can actually see each other at all times. They will recount many times how a big fellow cat-footed it over dry leaves and out of shooting range when a man was lucky if he could take a step without being heard for hundreds of feet.

Anyone who has really stalked deer can appreciate how clever the animal can be when he knows that he is being followed. This is especially evident when snow is on the ground.

It is amazing the lengths to which a deer will go to elude a pursuer. It will practically crawl through seemingly impenetrable thickets of laurel and rhododendron; cross and re-cross creeks and at times swin wide rivers; walk the bare highway and cut across wide, open fields.

Normally a buck will conserve his energy when being trailed and his tracks will usually show him traveling at a fast walk, seldom running. I have followed tracks up to a small thicket, one which I could see through and around, and then had to make more than one circle around it trying to pick up the tracks in snow! Doubling back and cutting short circles are common tricks employed by an alerted deer.

It is not unusual to be slugging along, hot on the trail of a deer, and then suddenly hear him snort off to the side or behind you where he has been watching your performance. Another snort, a wave of his white flag and a quick bound away in the brush, and you must start your stalk all over again. It is for this reason that smart hunters keep a careful watch on all sides as well as their back trail when on a stalk.

Of course, most deer are shot by still hunters and those working with a gang on a drive. This very fact is another point in favor of the deer's intelligence. Few have the courage and patience to attempt to outwit a deer, in a stalk although this is the purest form of big-game hunting.

In states which have a special season for the shooting of antlerless deer, hunters have found a new respect for the females of the species. And, with excellent reason. Although does and young bucks without antlers normally have little to fear and come to realize it, they can become as elusive as shadows soon after they themselves become targets for the guns.

A fine example of that occurred during the 1952 hunting season in Pennsylvania. Four of us went ou on the first day of the antlerless dee season which followed two weeks c buck shooting.

The first morning the kill wa heavy and our party saw a total c nearly twenty deer, heard many w couldn't see, and collected three du ing the day. Deer were all over. How ever, since I was hunting with th bow and arrows and had only on doubtful shot through brush at a do the first day, the group elected t stay another day.

Although the farmer had requeste us to take as many deer as the la allowed because he was suffering yea 'round crop damage, and the thre hunters with me drove all of th second day to get me a shot, the onl deer I saw waved her flag at me a she disappeared in the brush at lon range. And the day before the plac was swarming with deer!

Most of them were still there, w heard many of them, but they ha learned fast.

Personally, I have the utmost re spect for the white-tail deer. I woul not attempt to rate his intelligenc as compared to other animals becaus such a rating would be extremel difficult, if not impossible. It woul be necessary to take into considera tion many important factors such a environment, type of defensive an offensive equipment possessed by al animals considered and the degree t which all animals must struggle fo survival. However, if a fair classifica tion were made, I am sure that th white-tail deer would rate high o the list.

Certainly, the white-tail is *no* dumb.

Things You May Not Know

The location of the nestin grounds of the whooping crane North America's rarest and talles bird, is still a mystery despite inten sive search by prominent biologists



All Photos by the Author

That Shootin' Gal

By Don Neal

WHEN a woman beats a man at his own game, she becomes interesting from the male viewpoint for other reasons than her God-given graces of womanhood. Right away the average man wants to know what she has on the ball. What talents she possessed that some good man, somewhere, didn't already have—and in greater quantities.

That is why, right now, there is a wave of speculation sweeping the small bore rifle fraternity regarding a slight-built, nice-appearing woman by the name of Viola Pollum who lives at Brookville, Penna.

Vi Pollum upset the applecart of the entire male population of our country, even those completely disinterested in rifle shooting as a sport,

by trimming a top field of expert riflemen and walking off with the National Small Bore Rifle Championship at Camp Perry, Ohio, early this past Fall. And, what makes the feat so embarrassing is that it is the first time a woman has ever been able to do this little trick. It would be simple if we could blame this on luck but, in the case of Vi Pollum, we can't lightly do that. No, for just this past summer she scorched the boys in the shooting of the Goodyear Zeppelin Shoot at Akron, Ohio, and this is considered to be a real "toughy"; second only to the National itself. So, it appears, Vi really does have somesomething on the ball—and the guy who has more of it just hasn't come along yet.

When I asked her to describe this secret-weapon talent she has in words that the average shooter would fully understand, she smiled. She has no secret-weapon talent she told me. No, she simply shot the match the best she could, she said, and that was it. Yet, as we went on talking I found that she had a lot of good common womanly talents that in the sport of rifle shooting gave her an advantage over the average man, so much so that I found myself wondering why more women shooters hadn't trimmed our sails in the past.

To me, her biggest advantage over men is her total lack of the aggressive spirit that shows itself in competitive sport. In a man this drive is strong. With him there is no compromise—either he *should* win, or he knows he's most likely going to lose. Vi wins and loses; to her it doesn't seem to make the same difference it would with a man. Certainly, she wants to win, but winning or losing is not a matter of vital importance. She shoots the best she can and if her shooting wins for her she is as pleased as any man could be—but, if she loses; well who doesn't drop one once in a while! This is Vi's philosophy and it is one of her big guns when the going gets tough in any match.

My biggest surprise came when she smilingly admitted that men often do beat her. What man would readily admit, with the National Championship in the bag, that he wasn't a consistent winner? Yet, Vi says that her husband, LaRue Pollum, can beat her anytime if he really wants to do

FIRST WOMAN IN HISTORY to win National Smallbore Rifle Championship, Mrs. Viola Pollum of Brookville, Pa., scored 6390—491X out of possible 6400 and beat out 488 other competitors.





CHAMPION'S CHAMPION is husband LaRue Pollum. If he gets off to a good start, Vi claims he can roll up higher score every time. But as the records show, LaRue depends on Vi to do the championship shooting for the family.

it. Why doesn't he do it, then? Temperamental is the word Vi uses to describe her spouse's failure to be consistent. If he gets off to a good start, Vi claims, she just can't touch him, but if he drops the first couple of shots he loses confidence and she can trim him easily from there on in. But here, if you follow the conversation closely between the two of them, you will realize that LaRue depends on Vi to do the championship shooting for the family.

It was her ability to disregard the mental pressure commonly felt by shooters in the nationals that brought her through at Camp Perry this year. For the first time in its history the National was to be decided by shooting a *double*-Critchfield course. In the past the single-Critchfield had been found tough enough to eliminate most of the shooters and critical enough to determine a National Champion. But, there was some feeling that doubling up on this rugged going would unearth a champion of champions so the NRA decided in favor of the double-Critchfield course for the 1955 schedule. That champion was Vi Pollum.

Vi came through the first day's shooting with a score high enough to put her up in the first four. This was fine, but the dopesters had it figured—being a woman the second day of close competition would blow her sky-high and she would be out of the running. The second day Vi established herself in a solid third; this completed the single-Critchfield. Now, the dopesters were sure it was all over with the "woman" challenge and that the male shooters would pull away fast as they went into the third lap of the championship race. The third day, at the end of "hostilities," Vi found that she had fought her way into first place. If the NRA had intended in establishing the double-Critchfield to emphasize endurance they were certainly doing it —and in Vi Pollum they had found one contestant who capitalizes on this very talent to win matches. On the morning of the fourth day, Vi claims, she didn't feel any more tension than she had the morning of the first day. She took her place on the firing line knowing that all she had to do was shoot as good as she had been shooting and she was in. If I remember right, at this point of the conversation when she was detailing the last

day's shooting to me, it was during the morning of the fourth day that her closest competition "cracked," dropping a few points, which eased the pressure as she approached the crucial test of the last few bulls-eyes. Regardless, she held firm to the last and came in the winner of the National Small Bore Rifle Championship.

If you still have the idea that Vi might have been lucky in winning the championship, I'll detail two or her other achievements while she was at Camp Perry for the "big shoot." She took the Woman's National Championship with a 6390-419x score. She shot to a third position on the Randle Trophy Women's International Team with a score of 399-34x the thirty-four x's being the highest x-score in this division. Somewhere along the line she had dropped a lone point or she would have also been the winner of this event.

Vi is a huntress and she likes to fish. She has hunted with the "fellows" over the last twenty years and although she says her target shooting ability doesn't give her an edge in the field, she has consistently got her share of the game. She has killed a number of deer and in talking with her it is easy to imagine that she enjoys deer hunting a lot more than plugging away at stationary targets in a shooting match.

Vi and LaRue Pollum are the typical outdoor couple. It was, of course, LaRue's influence that led Vi into the field of target shooting and it is his continuing pride in her achievements that seemingly keeps her interest high in the sport. She first started to shoot targets in 1947. From a tyro to a National Champion in eight years is not a bad record—it is little wonder that LaRue Pollum is proud of his Little Woman.

FWS Asks Waterfowl Hunters To Cooperate in Annual Mail Survey

John L. Farley, Director of the Fish and Wildlife Service, today urged all waterfowl hunters who have received registration cards with the purchase of their Federal duck stamps to cooperate with the Service by filling out and promptly returning the indicated portion of the form.

This year more than 700 post offices throughout the country have been furnished with double postcard forms which are handed to purchasers of duck stamps at these particular post offices.

One-half of the card is to be filled out by the hunter and returned at once to the Service. The other half is to be retained as a sort of score-card on which the hunter can list the numbers and kinds of waterfowl which he bags during the coming season, and the number of days he hunted.

"This sample of hunters who return the cards," said Director Farley, "will receive questionnaires at the end of the hunting season in which they will be asked to report their seasonal hunting success. It is highly important that all duck stamp purchasers receiving registration cards fill them out and mail them promptly. Cards from everyone contacted are necessary to make our sample representative of the entire hunting population."

Chief purpose of the survey, Director Farley explained, is to determine as accurately as possible the extent of the waterfowl hunting kill for the season in order that a proper balance between the harvest of these birds and the hunting regulations may continue to be maintained.



Temper Tantrum

CLEARFIELD COUNTY — On September 4, 1955, I received a complaint regarding bear damage to corn. I investigated the complaint and found plenty of damage. On September 6, with the help of the service corps we moved the live bear trap to the damage area and set the trap. On September 8, we had one of the meanest bears that ever got into a trap. That bear just demolished our trap and why he did not escape, I do not know. He had the top torn off and the sides weakened so badly that we had to build a complete new trap. The farmer furnished us with boards and two-by-fours to brace the trap so we could transport the bear to State Game Lands No. 14. Every time we tried to put a board on the trap the bear would take a cut at us with a paw about the size of a pie plate. I figure the only reason why that bear stayed in the trap was to whack someone who was responsible for causing him the trouble.—District Game Protector Claude B. Kelsey, Troutville.



Free For All

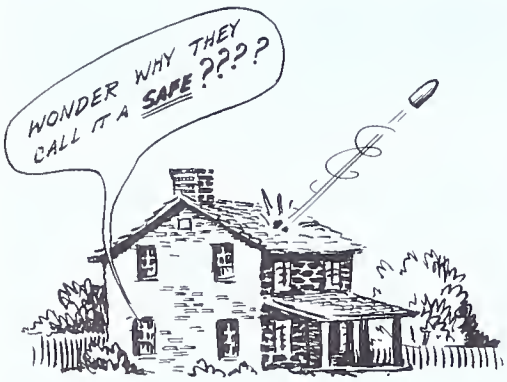
LYCOMING COUNTY—Recently, while patrolling in the Hoaglands Run section of Cogan House Township, Game Protector Evancho and myself came upon an unusual scene. In the middle of the road were two grouse fighting. We stopped to watch this battle and while watching, two red squirrels came out and also started to battle. Both fights were going on within a couple of feet of each other. We finally decided that if we wanted to continue on we would have to break up these fights which we did.—District Game Protector Robert L. Sinsabaugh, English Center.

Squirrel Scourge

CENTRE COUNTY—During September a heavy migration of squirrels came to this county, causing a game food problem. All hickory nuts were cut from the trees early in the month. They were working acorns heavily and doing great damage to corn fields. It was not unusual to see as many squirrels killed by vehicles as there were rabbits dead on the highway.—District Game Protector Joseph W. Kistner, Howard.

Babes In The Woods

ADAMS COUNTY—In September while on patrol in Straban Township, I saw a brood of pheasants cross the road in front of me. Upon getting closer, I was much surprised to discover that the hen pheasant had a brood of nine young with her which were only about five or six weeks of age. It is quite common to find broods of young that are hatched in early July, but according to all appearances these birds probably were not hatched until after August 15.—District Game Protector Paul H. Glenny, Gettysburg.



It Just Doesn't Pay

SUSQUEHANNA COUNTY — While cutting hay two farmers near Thompson saw a wild cat run from the field they were mowing into a bordering brush row. Going for the trusty 3/30, the men were in the kitchen of the farm house where one was showing the other how the safe on the gun operated when it accidentally went off. The slug went through a tea kettle, pierced an electric range, passed through the kitchen wall, crossed a bedroom and finally lodged in an outside wall. Undaunted, the men rushed back to the hayfield where they dispatched a beautiful specimen of a bobtailed domestic tom cat. Moral—some mornings it just doesn't pay to get out of bed.—District Game Protector Donald G. Day, Susquehanna.

Of Dignity And Deer

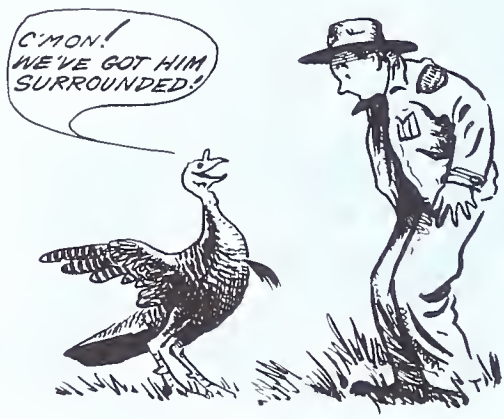
LEHIGH COUNTY — The Food and Cover men coming to work early one morning on State Game Lands No. 205, had a chance to observe how animals are sometimes as playful as children. A fawn was seen approaching the ponds near the barn and it noticed a swan on the bank and began jumping back and forth, seeming to want it to play. But the swan was too dignified and refused to pay any attention.—District Game Protector William A. Moyer, Allentown.

You Take The High Road

LANCASTER COUNTY — While returning home after visiting a friend one evening this month I had a funny experience. I had just come around a rather sharp corner and entered a covered bridge when I saw what I first took to be a dog coming toward me. On second look I discovered that it was a big red fox. I don't know which one of us was the most startled. He did an about face and beat me to the other end of the bridge. The last I saw him he was going right up the middle of an Amishman's land and really had it in high gear.—District Game Protector J. P. Eicholtz, Strasburg.

He Who Laughs Last

ELK COUNTY—Fox may be a natural enemy of turkeys, but turkeys were instrumental in assisting me to find a fox caught in my trap with a drag attached. I had been unable to locate the fox nor could I find the drag marks. I stopped to look over a flock of about 20 turkeys in the corner of a food plot. As they moved slowly away I discovered they had been quite closely gathered around the fox, caught upon a root. You could almost hear them say, "Heck, he doesn't look so tough."—District Game Protector Vern A. Van Order, Wilcox.



Enough's Enough

LACKAWANNA COUNTY—One of our well-known local sportsmen who is nicknamed Doc had quite an unusual and bloodthirsty tale to tell about his encounter with a skunk. Sometime ago he called and stated that a skunk was in his cellar and requested me to set a trap for the animal. Several box traps were placed in the area but the skunk refused to cooperate. One day, in desperation, Doc and a friend of his decided to see if they couldn't flush the skunk out with water. The animal had dug a hole from outside the house into the cellar and the hole slanted downward. Doc manned the hose and stationed his friend in the cellar with a chunk of concrete in his hand. He then started to run the water into the hole. Shortly, instead of coming through to the cellar the skunk emerged at the entrance where the water was being played into his den. Doc yelled for his friend who came running. He struck the skunk with the piece of concrete and the skunk started for the hole and got partially inside. Doc's friend then seized the skunk by the tail and after some tugging pulled him loose. He then slammed the animal against the ground and thought, "That's that." Instead of remaining on the ground the skunk again started to crawl away. Doc's friend then grabbed a hatchet which was handy and gave the skunk a terrific blow. Throughout all this the skunk had remained a gentleman. However, when he was attacked with the hatchet he finally resorted to use his weapon of defense. Doc's friend stated that his wife refused to let him into the house. It was several months before he was able to resume wearing his wrist watch which also had been in the line of fire.—District Game Protector Stephen A. Kish, Avoca.

Stronger Sex

MONROE COUNTY—A lady in my district has an unusual cat. As a male cat it had a female skunk for a girlfriend. This went on for about a year when the owner had the cat altered and the next night there was a cat and skunk fight. The skunk still comes to the house but will have nothing more to do with the cat. This week the cat had a fight with a large weasel which the cat killed after a short battle.—District Game Protector John H. Doebling, East Stroudsburg.

No Call of The Wild

BUCKS COUNTY—On September 27 I was called to Sellersville by the Chief of Police to pick up a strange bird which turned out to be a cormorant. The bird was found walking on the sidewalk up the main street of town which happens to be Route 309 and one of the most travelled highways in the state. A local newspaper editor took a picture of the bird and returned it to a small stream in the vicinity, but it refused to take to the water. I took the bird to a good sized pond outside of town and released it. It had a good swim and then returned to land. I returned to my car which was parked 200 feet away and waited to see what would happen. The bird walked right up to me at the car. About that time I decided that we either had a "landlubber" or a bird that had been penned up for some time.—District Game Protector Edwin W. Flexer, Quakertown.





Suffering Soybeans

BERKS COUNTY—Due to the gradual drop in the soybean market, many of the farmers decided to give up the planting of this valuable bean. There are several reasons that have discouraged the landowners. Due to the late harvesting season, many hunters tramp through the beans before the patch is combined. It is not too surprising to learn that two-thirds of the hunters do not know what soybeans are. Through observation we have learned that rabbits certainly consider soybeans a choice food. Last September you were able to see many patches that were rather well cleaned in several soybean fields. It looks as though a rabbit sits down and nibbles the plants until an area four feet in diameter is completely cut down.—P-R Area Leader Roy Trexler, Reading.

Crazy Flight

VENANGO COUNTY—I investigated a complaint of a lady concerning hunters shooting through her upstairs windows. As expected, a grouse on its crazy flight flew through a window on one side of the house and out another on the opposite side. I doubt if I convinced the lady that there was no shooting even though we could find no pellet marks. The only one to benefit from the incident was the family cat; it had a good meal on the dead bird. I forewarned the lady that the incident might happen again because I flushed two mor grouse out a few paces behind th house while looking for the first vic tim.—Conservation Education Assis tant Robert D. Parlaman, Franklin.

Cracking Good Competition

CARBON COUNTY—This pas month brought another unusual oc currence. One, where on four differ ent occasions squirrels bit humans In this locality where these attack have taken place there are man hickory nut trees and naturally squi rels are fond of such nuts. When per sons pass near these trees or try t pick the nuts they must be very muc afraid of the squirrels. Two person have been treated by doctors for bite inflicted by these squirrels. One wa a youngster, the other a woman. O one occasion a baby being pushed i a carriage by its mother was attacke and narrowly escaped being bit, wer it not for the mother warding off th squirrel. Another woman after hav ing picked a half bushel of nut placed them alongside a building Seeing a squirrel remove the nuts, sh took the basket and placed it insid the building. When the squirrel re turned it became very angry and ha to be driven off with a clothes prop Probably the only cause for such a tacks would be the jealousy of th squirrels for the nuts.—District Gam Protector William E. Fulmer, L highton.



A Sportsman's Guide To . . .

Clinton County

Fifty-Sixth In A Series

Note: This center sheet may be removed without damaging the magazine by loosening the two center staples.

Land Area

Clinton County cover 577,216 acres of which 500,061 acres (86.6%) are forested. Publicly owned land totals 260,570 acres, including 10,571 acres of State Game Lands.

Topography

Much of the county is mountainous, ranges of thickly forested mountains hindering agricultural development. Less than ten percent of the county area is under cultivation.

Transportation

Railroad transportation is furnished by the Pennsylvania and New York Central lines. U. S. Routes 120 and 220, converging at Lock Haven, are the principal highways crossing the county, which has a total of 266 miles of improved State Highways.

History

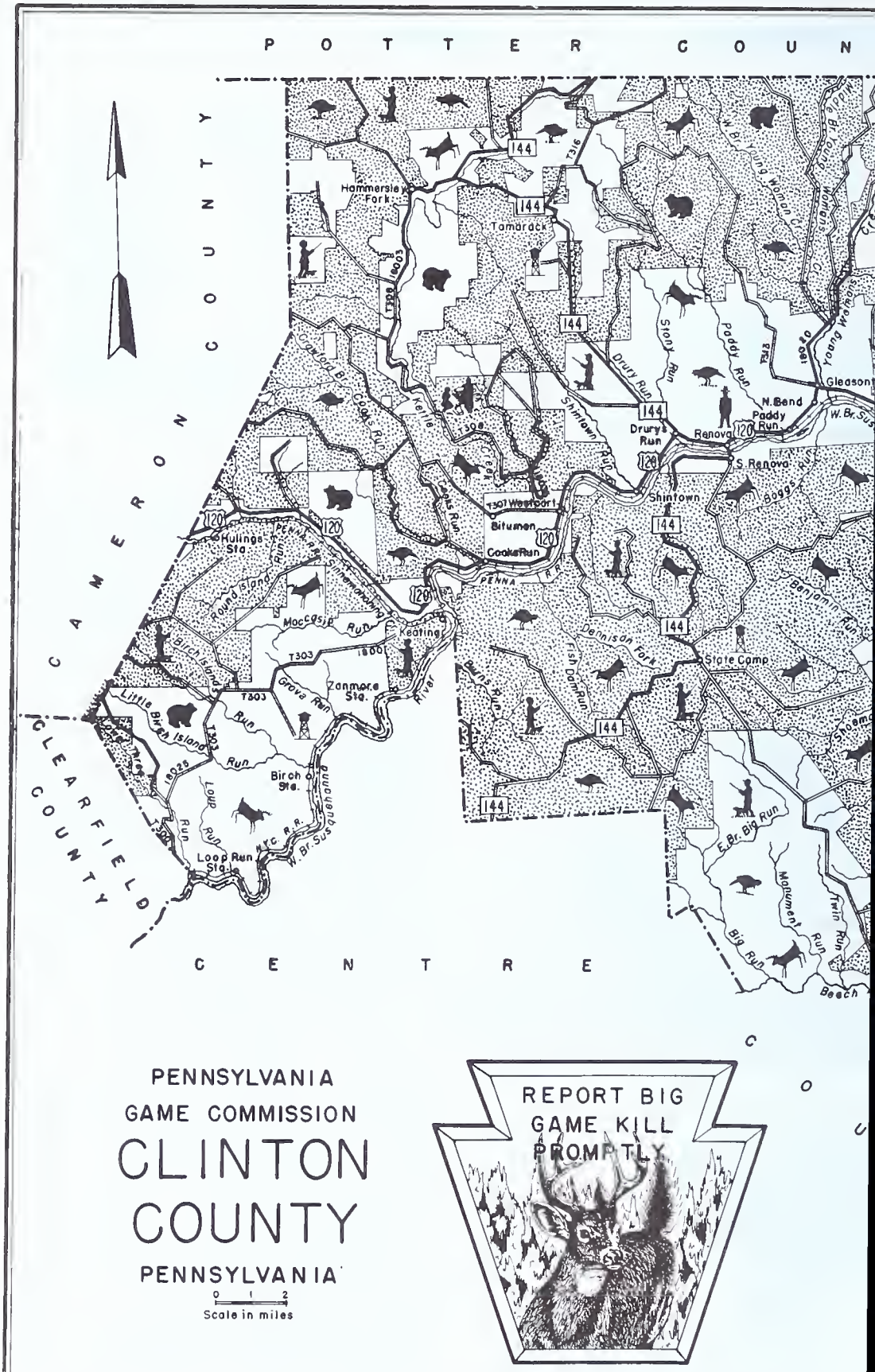
This county is rich in history dating back to long before the Revolution. Prior to that it was a great gathering place for various Indian tribes, three of which inhabited what is now known as Great Island in the middle of the Susquehanna River. The island is exceptionally fertile and today grows great crops of some of the finest tobacco in the state.

Parts of Lycoming and Centre counties were cut off to create Clinton county in 1839. The building of canals gave great impetus to population and industry. That interest in canals is shown in the name of the county for it honors Governor Clinton, of New York State, who was a great exponent of internal improvements.

A group of men, so named as Fair Play Men, of the Pine Creek area are reported to have gathered under a gigantic elm tree still standing where the Tiadaghton, or Pine Creek, unites with the West Branch of the Susquehanna River in Clinton County to declare their own independence from England on July 4, 1776. Some historians say the Pine Creek declaration is tradition—others claim it has a basis in fact.

Jeremiah Church is credited with being the "father" of the county. He settled at Lock Haven in 1833, laid out the town and started a movement to make it the county seat. Lock Haven did become the county seat and acquired its name because the canal provided a lock and the river a "haven" for great numbers of timber rafts from upstate. The community figured largely in the rafting days as a favorite "tie up" for raftmen on their journeys downstream to Williamsport, Harrisburg and Marietta.

Renovo, incorporated in 1860, and

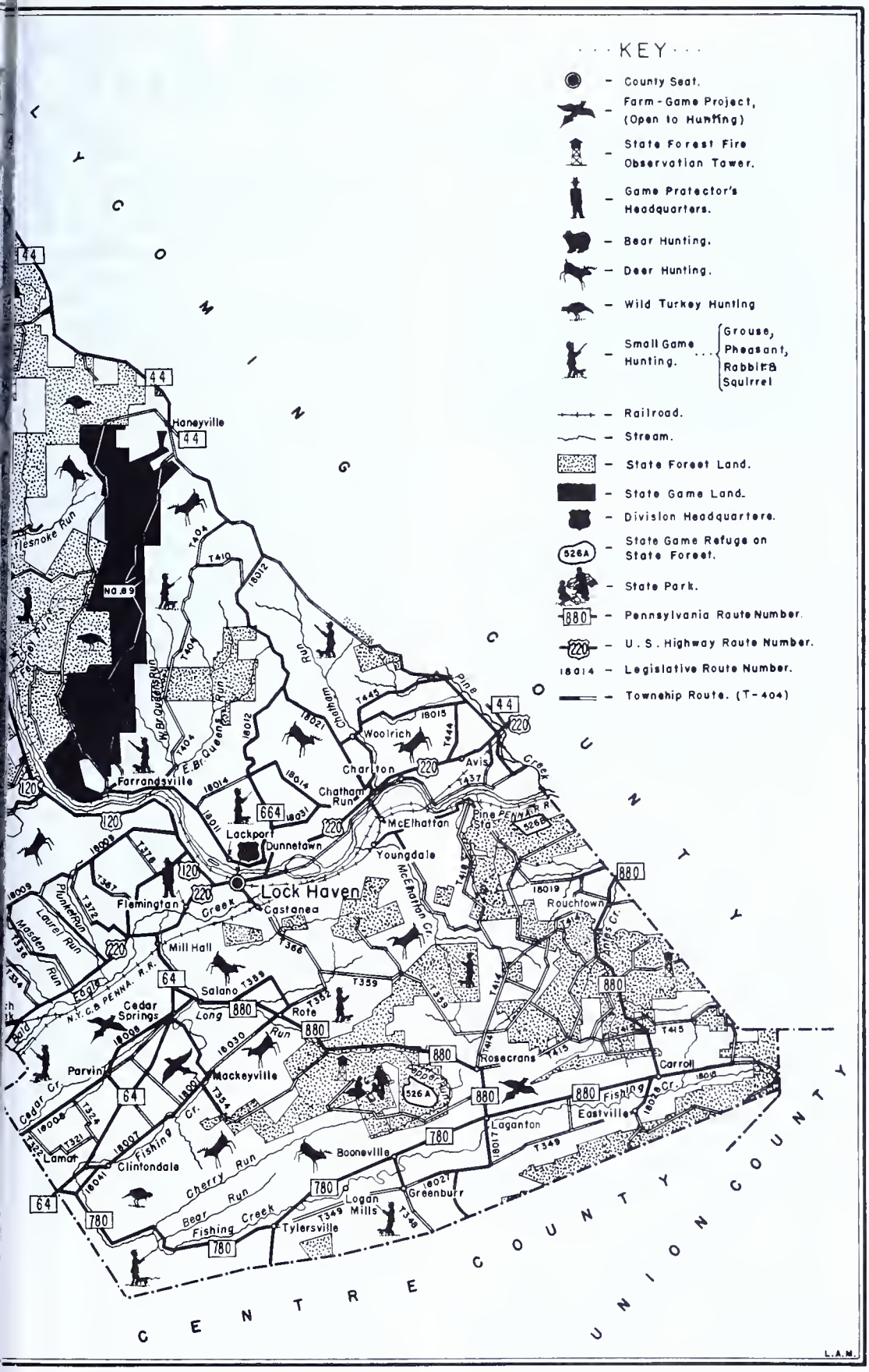


PENNSYLVANIA
GAME COMMISSION

CLINTON COUNTY

PENNSYLVANIA

0 1 2
Scale in miles


KEY
County Seat.
Farm-Game Project, (Open to Hunting)
State Forest Fire Observation Tower.
Game Protector's Headquarters.
Bear Hunting.
Deer Hunting.
Wild Turkey Hunting
Small Game Hunting. ... Grouse, Pheasant, Rabbits, Squirrel
Railroad.
Stream.
State Forest Land.
State Game Land.
Division Headquarters.
State Game Refuge on State Forest.
State Park.
Pennsylvania Route Number.
U. S. Highway Route Number.
Legislative Route Number.
Township Route. (T-404)
CLINTON COUNTY
CENTRE COUNTY
UNION COUNTY
Haneyville
Farrandsville
Lock Haven
Lockport
Dunnetown
Flemington
Castanea
Mill Hall
Salano
Cedar Springs
Parvin
Mackeyville
Clintondale
Lamar
Woolrich
Charlton
Avis
McElhattan
Youngdale
Pine Station
Rouchtown
Rosecrans
Eastville
Carroll
Laganton
Boonville
Greenburr
Logan Mills
Tylersville
Rote
Long Run
Cherry Run
Bear Run
Fishing Creek
Pine Creek
Chatham Run
Avis Creek
Nichollston Cr.
Laurel Run
Masden Run
Plunketts Run
Cedar Cr.
Fishing Cr.
W. Br. Queens Run
E. Br. Queens Run
Rattlesnake Run
Penna. R.R.
N.Y.C. & St. L. R.R.
Penna. R.R.
Sta.
44
220
120
64
664
880
780
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L.A.M.

laid out in 1862 is principally a railroad town. In 1831 P. W. Farrand founded Farrandsville as an iron manufacturing center. Later Christopher Fallon, agent for the Queen of Spain, became interested in the town. Tradition has it that he planned here a refuge for the Queen. Sugar Valley, in the southern section of the county, was named for great groves of sugar maple trees which studded the area in early days. Woolrich, formerly Factoryville and then Richville, is the outgrowth of a woolen mill established there in 1830 by John Rich. The mill has been in continuous operation ever since.

Industry

Clinton County has abundant mineral resources, including bituminous coal, limestone, clay and flagstone. Recently, the county has been the scene of intensive drilling for natural gas. Today the principal industries are paper and printing, textiles and textile products, leather and woolens, chemicals and allied products. One of the largest manufacturers of light aircraft in the world has a large plant at Lock Haven.

District Game Protectors

District Game Protector Charles Keiper, 1612 Erie Avenue, Renovo (Phone: 765) is assigned to the following townships: Leidy, Chapman, Noyes, East Keating, West Keating and Grugan.

Acting District Game Protector Oscar S. Hake, Jr., 415 Fredrick Street, Flemington (Phone: Lock Haven 5665) is assigned to the following townships: Bald Eagle, Colebrook, Woodward, Gallagher, Constable, Pine Creek, Beech Creek, Porter, Logan, Greene, Crawford, Wayne, Allison, and Castaner.

Fish Warden

Fish Warden William R. Miller, 244 Susquehanna Ave., Renovo (Phone: 12R) is assigned to Clinton County by the Pennsylvania Fish Commission.

District Forester

District Forester Paul W. Duck, Renovo (Phone: 48) is assigned to this county by the Pennsylvania Department of Forests & Waters.

Recreation—Fishing

Fishing waters (name of stream or lake, fish stocked by the Pennsylvania Fish Commission, location and length or area of stocked waters) include:

TROUT: Baker Run, Glen Union, Rt. 120, 4 mi.; Beaverdam Run, Hammersley Fork, Rt. 144, 3 mi.; Big Run, Renovo, Rt. 120, 1 mi.; Middle Branch of Big Run, Renovo, 5 mi.; Swamp Branch of Big Run, Renovo, 5 mi.; Birch Island Run, Karthaus, Rt. 879, 4 mi.; Chatham Run, Woolrich, Rt. 664, 3 mi.; Cherry Creek, Lamar, Rt. 220, 4 mi.; Cooks Run, Westport, Rt. 120, 6 mi.; Big Fishing Creek, Mill Hall, Rt. 64, 16 mi.; Hammersley Fork, Hammersley Fork, Rt. 144, 3 mi.; Hyner Run, Rt. 120, 6 mi.; Kettle Creek, Hammersley Fork, Rt. 144, 21 mi.; Lick Run, Lock Haven, Rt. 220, 4 mi.; Long Run, Salona, Rt. 880, 3 mi.; Paddy Run, Renovo, Rt. 120, 4 mi.; Rattlesnake Run, Hyner, 3 mi.; Rauch Creek, Rauchtown, Rt. 880, 6 mi.; Tangascootack Creek and North Branch, Lock Haven, Rt. 220, 7 mi.; Trouts Forks, Hammersley Fork, Rt. 144, 4 mi.; Young Woman's Creek and Right and West Branch, North Bend, Rt. 120, 15 mi.

BLACK BASS: Bald Eagle Canal, Lock Haven, Rt. 220, 80 A.; Bald Eagle Creek, Mill Hall, Rt. 64, 12 mi.; Pine Creek, Jersey Shore, Rt. 220, 5 miles.

Recreation—Hunting

Clinton County is primarily noted for hunting opportunity on forest game species, notably deer, bear, and wild turkeys. It also provides good squirrel and grouse hunting. One large tract of State Game Lands, open to public hunting, is located just north of Lock Haven—Number 89 covering 10,571 acres.

Outdoor Reveries



Hearth Fires

By John H. Day

THE countryman came awake to find the landscape seized in the steel jaws of December. The morning air was bitter cold. Great ice columns glistened against the rock cliffs beyond the creek, and the knuckled twigs in the thickets behind the house were gloved with frost. The old woman up in the sky had shaken out her feather bed during the early part of the night, clothing the countryside in the childish innocence of snow.

The pressure of encroaching frost is such that earth is stilled, becoming but the frozen echo of the silent voice of God. The steady increasing cold puts all the woodlands into winter quarters. The ground freezes, as we say, meaning that the moisture in it has become ice to a depth of several inches, making an almost impenetrable ice blanket through which the most severe winter weather will work but slowly.

This same ice, which seems to menace all the tiny living things in its deep-freeze grip, is in fact their armor. Beneath it, or even in it, all burrowing roots, animals and insects are as snug as the fabled bug in a rug. Groundhogs asleep in their burrows, and snakes torpid in their holes are as safe from frost-bite as if they had migrated to the shores of the Gulf of Mexico.

The tiny rootlets of small perennial herbs may be encased in ice to their tips, but they do not freeze. The heat which the surrounding moisture gives up in changing to ice, combined with their own self-generated warmth, keeps them just above the freezing temperature, and they come through safely. Lay these same rootlets bare to the frost of a single October night and they will perish.

A tiny wind whips up a spate of dry, driving snow, and the countryman, bundled to the ears, walks abroad to hear the sibilant whispering of the sudden storm. This whisper is somewhere between a pattering sound and a hiss as the flakes descend on the dead grass and the foliage. This storm-talk can be heard most clearly in the woods, or in fields where the dried weeds stand up stiffly.

There is tremendous beauty in the snowscapes of December. The countryman stops by a creek to admire the artistry where the gray and coffee-tan of a mottled old sycamore leans out over the dark ice or the black streaks of open water. The snow has built exquisite cornices over the creek bank, and the dead weed stalks rise above them with a delicate, stiff grace. Every line—the snow cornices, the edge of open water, the bare

limbs of the tree, the distant hill—is a fluid curve, and every color is a tint, suffusing the black and white ground plan.

Along the wooded hillside the countryman pushes his way into the wind, joying in the clean cool sting of the driving pellets against his cheeks. He follows a line of outcrop boulders which have laid claim to this timbered slope, scrawling their craggy signature across the page of time. The surprising greenness of ferns and mosses, and of ground cedar and wintergreen refreshes the winter-jaded eye.

As the earth swings farther and farther in its orbit in the vast universe, and the heat of the sun seems to diminish, the cold days of December breathe an atmosphere crisper and clearer. Sunset and sunrise seem more brilliant, and the sparkling stars during the longer nights seem drawn closer to earth. The countryman stands entranced, watching the stars through the mist of the breath from his own nostrils.

The winter night is full of mystery. Queer, ghostly shadows and sounds linger everywhere and play merry little tricks on the countryman's imagination. The wind rushes over the shoulder of the hill and howls at him, and then speeds off across the bottomland, laughing in great gusts. The trees sigh and toss restlessly and their great branches droop over the road with long, writhing, grasping fingers.



COMMON MULLEIN

In the eerie December night the reflection of the uncertain light upon the snow plays strange tricks with the sight, counterfeiting the pale gleam of some ghostly moonlight when the moon is still far below the horizon. The wind sweeping along the road gathers up the snowflakes, and the countryman hears an elfish rustle in the filled-up ditches as if the winter fairies were playing there.

Silence is the first rule of the December woodlands. A sort of expectant, waiting silence, with nary a leaf stirring nor an acorn dropping. Except on those days when the December wind keens through the bottomlands and plucks crashing chords from the trees on the ridges, the only sounds are the music of running water and the muted chatter of winter birds foraging through the underwoods. This is the resting time, and the trees stand comfortably at ease, sealed off against the weather, their feet tucked comfortably under the warm brown blanket of fallen leaves.

Ashamed of the racket of his noisy blundering along the quiet forest aisles, the countryman halts for a breather, leaning on the sun-warmed bole of a tremendous oak. Once the rustle of his movements has subsided, he stands motionless, lost in the immensity of the timbered hills, and humbled by the very silence of his surroundings. Here is sure cure for any man who has let his jangled nerves disrupt his piece of mind. There is contagion in the peaceful calmness of the December countryside.

A lone bluebird had escorted the countryman along part of the journey into the hill country. Sort of a dingy, dirty blue—far cry from the azure coat he'll wear come spring—this fel-

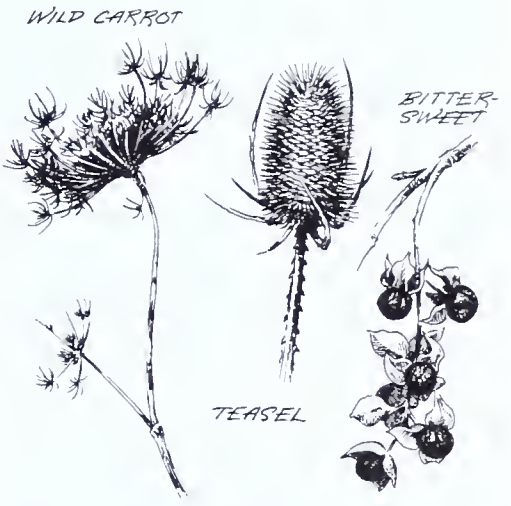
low got up off a telephone wire and paced the car for some distance down the country roadway. Scarlet fruits of the wahoo glowed ruddily in the fencerows.

The countryman parked by the creekside and headed straight up the hill, aiming for the ridge which follows the meandering pattern laid out by the wide valley stream centuries ago. The footing was uncertain in the spongy loam, making every step an invitation to disaster. The remains of a paper hornet's nest hung in a small tree in the edge of the woods. As usual a passing gunner had not been able to resist blasting the nest with a charge of No. 12 shot.

The rather rare walking fern is at home on this hillside, and the hiker marked down two new stations of this odd plant as he quartered up to the ridge. The calendar had its finger on December but the tiny woodland insects paid no heed. Midges were dancing in the sunlight, and a small moth was flying.

Far below, the stream lay open to the sun, gleaming like a wide silver ribbon. On reaching a drag trail, where loggers had hauled out some heavy loads, the countryman took this easy pathway back down across the hillside to the creek. He made a careful crossing at a shallow riffle, but shipped one boot full of water anyhow, and for the remainder of the day tramped about with one very cold and very wet foot.

Silence is surely the first rule of the December woodlands. However the motionless silence of the denuded trees is not the silence of death, but of sleep. The forest giants wait, they rest, biding their time. They do not murmur to one another as they do in summertime, yet in some mysterious way they seem more alive than ever. The countryman does not walk alone in the December woods. He has the feeling that the trees are aware of him, watching his every move.



It is not until the trees have become skeletons that the country rambler can see the bare bones of the beautiful bough formations. The flowing lines of the smooth, clean beech branches are never seen in summer when the limbs are draped in the green cloak of the leaves. The majesty of an oak cannot be fully comprehended until the massive thing is stripped and the boughs revealed.

In the silence of the December woods the strength and character of the great trees become more fully evident. The countryman, leaning at ease against the huge oak, absorbs some of this inner strength. Trivial cares dwindle and "housebred" troubles vanish when contemplated outdoors against the majestic calm and ageless serenity of the silent, brooding December woodlands.

The hearth fires of the old year are rapidly dying out. Countrymen everywhere gaze deep into the glowing embers, dreaming of good days now past and wondering what of the bright new year waiting to step onstage. Whether it be a tiny camp fire deep in a wooded ravine, or a cheery blaze roaring into a wide chimney throat deep in the city's ravines, the true outdoorsman soon succumbs to

the warming flames' hypnotic influence, and fall into dreamy revery.

Fire is a fearful and a wondrous thing. Among all the discoveries and inventions made by men, only a few, such as speech, writing and agriculture, have borne such momentous fruit as has the discovery of how to make and use the type of combustion commonly known as fire.

The hearth fire is particularly close to the heart of the Twelve Days of Christmas. Around the Yule logs of centuries the race has warmed its heart as well as its hands; its soul as well as its body, and the old gods of terror have become the saints of good will. In the light of twenty centuries of Christmas fires men have forgotten to be afraid and have made out of their weird dreams friendly fancies.

Mankind loves warmth, but he worships flame. Let a colorful blaze occur in a city loft and the streets are jammed with eager spectators. The flicker of flame in the night will draw woodsmen far, and all the wild things of the woods will come as well to toss back its flare from eyes wide with wonder.

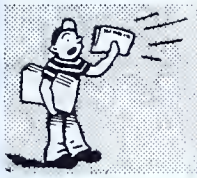
A wood fire is full of liquid pigments, fancy-fed, and it has gorgeous depths and recessions, like the sunset itself. There is always a beyond in its soft turmoil of pictures, as if fire alone opened the gates of fantasy. The countryman, lost in his hearthside dreaming, watches the little tongues of flame throwing lambent halos, and dancing over beds of roses that vanish and come again and then finally sink into still gray heaps of ashes with little recurrent throbs of heat pulsing through the dying embers.

The countryman knows that a house with no fireplace is a house without a heart. Here is the real center of family living. And so he makes sure his chimney draws wel that his kindling is as tinder, and hi wood dry. He knows that of the har woods hickory is easily the king as fire holder and that apple woo smells the sweetest, revealing th ghosts of apple blossoms in the ol gnarled logs.

The man who gets up his ow wood, who works with axe and spli ting wedge and bucksaw, gets doubl enjoyment from his firewood. He no only enjoys the friendly fellowship o the winter woodlands, but his fir wood warms him twice, once whe he cuts it and again when he burn it. A "boughten" cord will blaz nicely and throw heat, but not in th same class with the wood which h himself has cut and stacked an hauled.

The blaze from a burning log o an open hearth is the kindliest wel come that a room can give to hin who enters it. In its glow the roug rind of our materialism burns awa and the ancient warmth within shine forth as we sit about this primal alta of our race, fire-worshipping. Ther is one figure that no statistician ca calculate when he assays the heatin power of firewood, and that is hov much it warms the heart!

During these Twelve Days o Christmas all countrymen are awar that the peace of the gods which ou Aryan forebears knew descended a Yuletide hovers near always as the watch the Yule logs burning, whethe in the keen air under the stars o about the carefully tended hearth Around the fire, whether without o within, all men are brothers. Surel that peace which men of good wil now so earnestly are seeking, woul come as a benediction to the heart sick world, if all men in high plac could meet around a simple, heart warming applewood fire.



CONSERVATION NEWS



Licensed American Hunters and Fishermen At All Time High

All previous sales records were shattered in the last fiscal year when 32,654,199 hunters and sport fishermen paid out about $85,000,000 for hunting and angling licenses and federal duck stamps, the Wildlife Management Institute reports. As in past years, most of the licensees were fishermen, with 18,580,813 men and women paying nearly $39 million for all types of State licenses, permits, and stamps in the fiscal year ending June 30, 1954.

Hunters totaled 14,073,386 and they paid out more than $46 million for State resident and nonresident licenses, permits, tags, and stamps, including $4,542,860 for duck stamps. Nearly 3,000,000 free hunting and fishing licenses were issued by the States during this period. Uncounted, but swelling the total further are the many persons who normally are exempt from the licensing provisions of the various States.

Sportsmen should realize that under the terms of the Federal Aid in Wildlife Restoration and Fish Restoration Acts the numbers of free permits issued by each State do not enter into the calculations whereby the annual appropriations are made to the States. Only the number of licenses actually sold can be counted when the annual receipts from the special excise taxes on sporting arms, ammunition, and sport fishing tackle are allocated among the states for vital game and fish restoration work.

Resignation of J. C. Gilford Announced by Game Commission

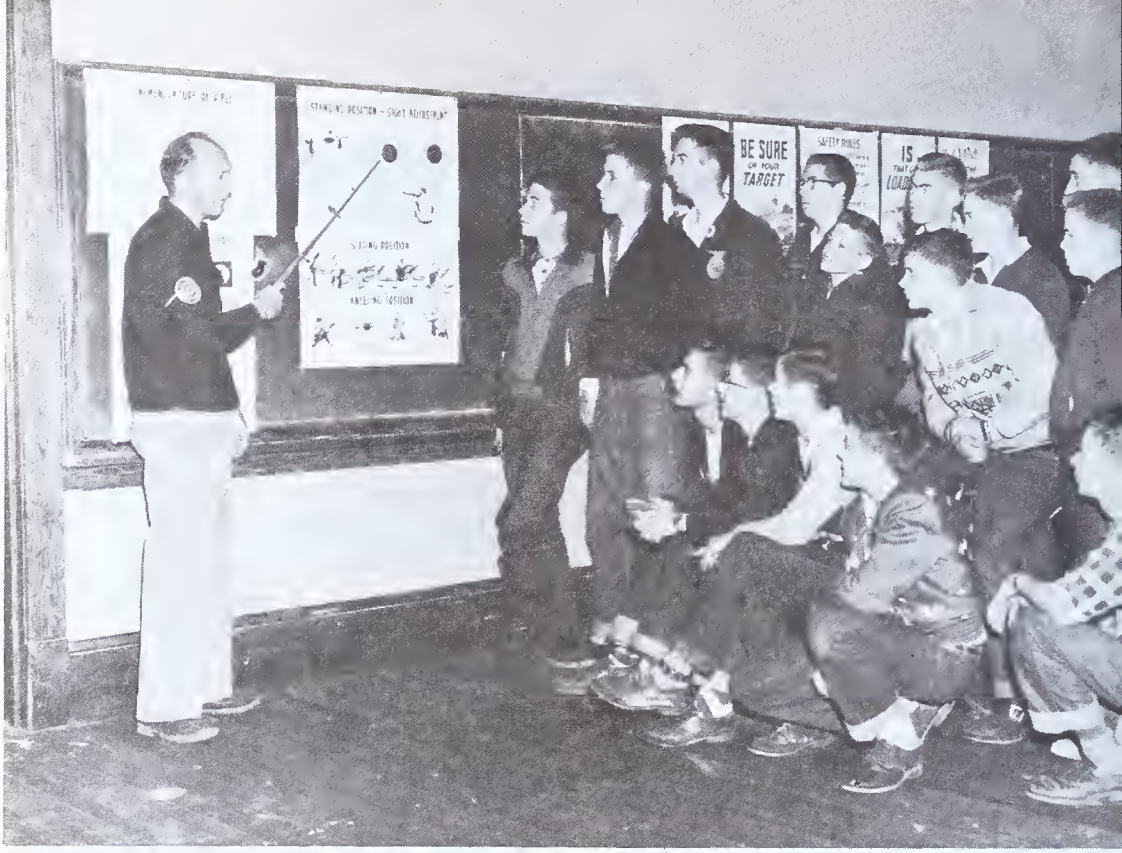
The Pennsylvania Game Commission has announced the resignation of J. C. Gilford who for the past 7½ years served as the agency's Wildlife Conservation Bureau director.

Gilford was employed by the Commission since 1924. He started his duties as a Deputy Game Protector in Clarion County, became a State Game Protector and later was Field Supervisor in the organization's northwest and northeast divisions, prior to assuming the Harrisburg assignment.

Gilford's plans for the future have not been announced.



J. C. Gilford



FIRST NRA HUNTING SAFETY COURSE ever held in Juniata County was sponsored this fall by the Fayette Township Lions Club at McAlisterville. Here instructor Roy Lauver points out marksmanship positions to group of students from East Juniata High School. Course consisted of three evening classes and one field day of shooting and practice.

Stolen Guns

The following shotguns and rifle have been reported as stolen while in transit via railway express at or near Harrisburg during late October:

1 Ithaca Double Barrel, Trap Grade Shotgun. Serial No. 447324.

1 Ansley Fox, C. E. Grade, Double Barrel Shotgun. Serial No. 24704.

1 F. N. Mauser Rifle, .256 Newton Cal. Serial No. 5566.

Any information on these firearms should be reported to A. B. Wickwire, General Agent, Railway Express Agency, Harrisburg or to R. N. Jordan, Special Agent, Railway Express Agency, 210 E. Centre Street, Baltimore 2, Md. (Phone: Saratoga 7-0600.)

Hunting License Sales Mount

In the 1954 Pennsylvania hunting license year, which ended August 31 1955, residents of the state secured 869,286 licenses; non-residents ac counted for 30,827.

The 1953 licenses numbered 859, 783 resident; 30,664 non-resident.

For the 1952 license the totals were 830,779 and 32,042.

These figures do not truly indicate the number of persons who hunt in Pennsylvania, however. Any citizen of the state who resides upon and regularly and continuously cultivates land for general farm purposes, truck growing, orchards or nurseries, op erated on a commercial basis, may hunt or trap thereon without license Under these conditions a person may also hunt or trap, with the written consent of the owner or lessee, upon lands connected with his own, other than those publicy-owned, without a hunter's license.

PENNSYLVANIA GAME COMMISSION
RESIDENT AND NON-RESIDENT HUNTERS' LICENSES ISSUED BY COUNTY

Counties	Resident 1953	D.V.	Resident 1954	D.V.	Non-Resident 1953	Non-Resident 1954
Adams	6,163	(1)	6,255	(...)	406	413
Allegeny	66,905	(37)	68,547	(46)	176	162
Armstrong	13,306	(7)	13,441	(7)	134	151
Beaver	15,004	(14)	15,710	(18)	285	263
Bedford	8,087	(7)	8,002	(11)	458	414
Berks	23,309	(15)	23,594	(15)	51	51
Blair	16,257	(14)	17,208	(21)	168	194
Bradford	8,747	(7)	9,085	(8)	589	554
Bucks	13,250	(9)	14,006	(9)	859	788
Butler	13,854	(7)	14,547	(8)	148	147
Cambria	22,712	(17)	23,307	(18)	178	225
Cameron	2,168	(1)	1,812	(3)	327	319
Carbon	6,358	(8)	6,160	(10)	77	73
Centre	11,837	(9)	11,888	(8)	194	198
Chester	14,737	(9)	15,135	(11)	509	522
Clarion	8,413	(9)	8,780	(9)	502	658
Clearfield	15,604	(15)	14,710	(15)	689	589
Clinton	7,652	(12)	7,387	(15)	165	143
Columbia	8,569	(2)	8,790	(3)	98	91
Crawford	14,099	(16)	14,299	(14)	712	890
Cumberland	14,320	(3)	15,084	(5)	38	50
Dauphin	19,966	(22)	20,478	(28)	153	169
Delaware	13,057	(9)	13,592	(12)	161	164
Elk	6,637	(3)	6,314	(3)	454	440
Erie	24,377	(12)	24,660	(10)	812	1,012
Fayette	18,770	(23)	18,677	(24)	191	167
Forest	2,299	(3)	1,476	(3)	628	624
Franklin	11,459	(2)	12,207	(3)	433	435
Fulton	2,555	(5)	2,185	(5)	160	176
Greene	5,042	(6)	5,026	(6)	121	98
Huntingdon	7,620	(13)	7,370	(11)	200	190
Indiana	11,055	(13)	11,009	(8)	317	278
Jefferson	10,144	(12)	10,930	(13)	971	1,043
Juniata	3,122	(4)	3,136	(3)	52	54
Lackawanna	14,371	(24)	14,713	(26)	219	221
Lancaster	28,792	(9)	28,530	(16)	137	116
Lawrence	11,740	(12)	11,747	(9)	1,249	1,209
Lebanon	10,290	(12)	10,279	(12)	45	35
Lehigh	12,964	(11)	13,823	(12)	66	81
Luzerne	28,373	(24)	28,451	(26)	493	548
Lycoming	16,013	(14)	16,287	(13)	293	289
McKean	10,378	(9)	10,255	(7)	1,316	1,335
Mercer	15,723	(6)	15,676	(6)	2,291	2,426
Mifflin	7,763	(6)	7,800	(9)	156	132
Monroe	6,448	(5)	6,204	(5)	602	580
Montgomery	22,590	(10)	23,248	(12)	47	66
Montour	2,247	(2)	2,314	(3)	9	5
Northampton	16,272	(7)	16,256	(7)	579	672
Northumberland	13,466	(5)	13,919	(8)	64	51
Perry	4,952	(2)	4,923	(6)	46	44
Philadelphia	22,809	(9)	23,304	(9)	592	644
Pike	2,538	(4)	1,558	(1)	1,903	1,772
Potter	4,223	(8)	3,898	(10)	1,047	932
Schuylkill	19,368	(14)	19,536	(14)	68	66
Snyder	4,000	(3)	4,151	(6)	27	19
Somerset	12,929	(16)	12,911	(15)	337	409
Sullivan	1,651	(4)	1,480	(4)	88	85
Susquehanna	5,354	(2)	5,108	(3)	342	326
Tioga	7,359	(8)	7,008	(8)	685	621
Union	3,824	(6)	3,644	(8)	57	52
Venango	10,376	(8)	9,934	(6)	917	924
Warren	7,293	(9)	6,944	(8)	1,491	1,368
Washington	19,340	(10)	20,476	(9)	488	510
Wayne	5,146	(8)	4,962	(7)	692	693
Westmoreland	34,786	(22)	36,057	(31)	196	167
Wyoming	3,225	(1)	2,897	(1)	119	106
York	24,658	(10)	25,140	(9)	436	464
Dept. of Revenue	1,068	(...)	1,046	(...)	2,151*	2,114*
Totals	859,783	(646)**	869,286	(709)**	30,664*	30,827*

* Includes Alien Non-Resident Hunters' Licenses as follows: 1953, 7; 1954, 3.

** The figures in parenthesis indicate "Free Licenses" issued to Resident Disabled War Veterans, which are included in column of "Resident Licenses."

Federal Duck Stamp Sales Show Drop for Second Year

Federal "duck stamp" sales for the fiscal year ended June 30, 1955, continued the downward trend exhibited last year, according to the Fish and Wildlife Service.

A total of 2,181,566 stamps of the 1954-55 issue was sold to hunters of migratory waterfowl, conservationists, and philatelists, according to the final figures recently supplied to the Fish and Wildlife Service by the Post Office Department, the agency responsible for distributing and selling the stamps.

The 1955 total indicates a drop of 89,864 below last year's total of 2,271,430. The all-time high record was reached in fiscal year 1953 when 2,296,628 stamps were sold.

California headed the 1955 list with a total of 176,881. Other States recording sales exceeding 100,000 were Texas, with 151,851; Minnesota, 143,886; Michigan, 129,937; Wisconsin, 127,358; and Illinois, 110,507. Pennsylvanians purchased 48,646.

Waterfowl Hunters' Help Needed in Annual Mail Survey

All duck and goose hunters ca assist the U. S. Fish and Wildlif Service in determining the numbe of waterfowl bagged this season. Th information is needed so that proper balance may be maintaine between the number of birds that ar taken and the available supply, th Wildlife Management Institute re ports. To do this, the Service ha distributed hunter cards to more tha 700 post offices. These will be hande to hunters as they purchase their fe eral duck stamps.

Sportsmen should fill out an promptly return the proper part o the printed form. The remaining ha is made up in the form of a scor card to list the numbers and kinds o birds bagged and the total days spen in the field. Those who return th survey cards will receive a questio naire at the end of the shooting se son in which they will be asked to re port their season's success.

PFSC OFFICIALS elected during October meeting in Harrisburg for 1955-56 term includ left to right, standing: Seth L. Myers, alternate delegate to National Wildlife Federatio Charles W. Stoddart, Jr., NWF delegate; Ed F. Brasseur, 2nd vice-pres.; Glenn C. Dodd treasurer; sitting: Charles H. Nehf, secretary; Ray H. Armstrong, president; and Ste Emmanuel, 1st vice-president.





WANT BETTER DEER HUNTING? YOU CAN HELP GET IT!

Most deer killed in Pennsylvania are bagged by SPORTSMEN during the open seasons. These deer are killed in nearly every county of the state and the harvest occurs within a relatively short period of time.

In order to evaluate properly the effects of this hunting pressure and out-of-season losses due to other causes, the Game Commission must know the age class composition of the Pennsylvania deer herd. And this important information must come from YOU. Actually, we are not interested in the age of just one or a few deer. We must have a large number of specimens to examine—information on a representative sample of the entire deer herd.

We are relying on YOU to submit the jaw from YOUR DEER whether it be male or female, large or small, trophy or not. And speaking of trophies, why not request the taxidermist to save the lower jaw so you can have it aged. We return this information to you. The taxidermist won't use it in mounting the head anyway and probably would be more than glad to save the lower jaw for us.

LET'S WORK TOGETHER FOR BETTER DEER HUNTING! Just as soon as you get your deer, cut out one side of the lower jaw, fill out the data sheet on the other side of this page, and mail them in.

DEER DATA SHEET

Killed: County_____ Date_____

Township_____

Sex: Male ___ No. of points: Right _____ Left _____

Diameter (1" above burr) _____

Female ___ Pregnant: Yes _____ No _

Lactating: Yes _____ No _

Weight (actual weight preferred):

Hog-dressed, estimated _____

Hog-dressed, actual _____

Remarks: (shed antlers, deformities or disease, unusual condition, general remarks, etc.)_____

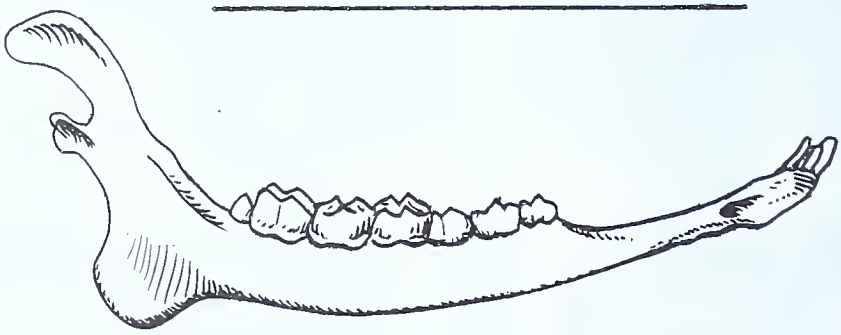
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_____

Return Address: _____

_____

_____



Fill out this form as completely and accurately as possible and forwa with one side of the lower jaw of your deer to: Stanley E. Forbes, 432 Lookout Avenue, Ridgway, Pennsylvania.

Give Yourself the Breaks

By Ed Shearer

WHEN the chips are down, your first move largely determines the outcome. This is especially true when the hunter finds himself in the presence of big game. The chance that he has worked and waited for so long has finally arrived, often quite suddenly. And he is apt to be mentally and physically unprepared or even completely surprised.

The merits of his much vaunted rifle avail him nothing now It's what he does with it that counts. And here lies the difference between a top-notch performer and the average hunter.

Let's take, for example, the woods-rifleman in this situation. He may take the shot off-hand, kneeling, sitting or wait the shot out. It will depend on the range, terrain and the game itself. But whatever course of action he elects to take, he must decide instantly. You may be sure he wants to give himself the best possible breaks under the circumstances.

This type hunter usually lives in or near the game country. He spends a great deal of his spare time in it. By observation and study he acquires a working knowledge of wild birds and animals. He learns their habits and probable behavior under different circumstances. And just as important, he has learned to move quietly, slowly and alertly through game country. This type hunter does quite a bit of shooting throughout the year and directs his practice to take advantage of wildlife's weak points. This gives him the best breaks on the tough shots.



Another point that is seldom mentioned is that this type hunter usually has a rifle of some kind on his woods jaunts. Thus he learns how to carry his rifle so that he is rarely caught flat footed, when the big moment arrives unexpectedly. Also he gets numerous opportunities for dry runs on game. Thus minus the excitement and the recoil, (when the chips are down) he can clearly see his errors and correct them.

Now take the case of all too many hunters. Their total preparedness is to fire three to five cartridges (maybe) out of their annual purchase. This proves two things. A—The barrel of the rifle still has a hole in it. B—It shoots in the vicinity of where they are looking. So, in the clutch and regardless of the circumstances, they assume the approved Leatherstocking pose and whale away as long as the game is in sight. This goes on year after year. Most of these chaps want to do better but are a bit hazy as to how to go about it. To further complicate matters, due to work, location, etc. they can spend little time in the outdoors.

Here is one method the hunter can learn around home in the off season that will greatly improve his chances. Especially if he hunts with a camp or crew of hunters. It entails a minimum of woodsmanship so let's try it and see what happens.

The first thing to get firmly fixed in your mind is that the ultimate result of this routine is to "bust a buck." So let's forget all legends of Natty Bumpo and his alleged modern counterparts. To attain your goal you must learn to align your sights on the said buck and get the shot away —while the sights remain that way. So at the very outset you discover that you must learn to do two things

at once. Luckily they are so closely related that you combine them in the same operation.

There are four accepted standard shooting positions that are used in organized shooting. The prone is the easiest position to shoot accurately, but is rarely used in the woods. Sitting is a very useful and steady position. Kneeling is much tougher from which to shoot accurately but can often be employed by the knowing hunter. Offhand is the toughest of all shooting positions from which to shoot accurately yet this is the one that the beginner will invariably use, if he does not have the advice of an old hand. This is the position that requires a cool and precise shot to do good work. As most hunters will use this position, 90 per cent of the time in the woods, a fair proficiency must be acquired.

It is best that the beginner learn the correct stance in each position. In that way he learns how to get the best support out of each, when he uses a variation in the woods.

The beginners in offhand shooting are apt to make some basic mistakes. They hold the left hand too far out on the fore-end and usually to one side instead of underneath. This gives poor support to the rifle and increases the wobble. The steadiest practical offhand position is with the palm of the hand just forward of the trigger guard and with the elbow under the rifle. The weight of the rifle is supported in a straight line. This position supports the rifle as steadily as possible in practical offhand shooting. The weight of the rifle hangs forward and helps slow down the rate of the wobbles. For the right hand shooter the right elbow should be high enough to give one good control of the rifle and to properly bed and hold the butt against the shoulder.

The stance should be easy and comfortable with the left foot slightly advanced. Weight should be more on the left foot than the right, with the



GOOD OFFHAND SHOOTING is 50 pe cent position and 50 percent trigger co trol. Using a tree as support will help an is good idea for hunters who find fro sights are wobbling all over the landscap

feet spread wide enough to give goo footing and balance, to enable one t shift his feet quickly, on rapidly mov ing game. This position is best whe the shot must be taken offhand a good range. For quick shooting a nearby or running game the left han should be moved farther out. Thi gives the shooter more leverage an enables him to swing faster.

Anyone who begins offhand prac tice under the illusion that he ca hold the rifle still is in for a sudde disillusionment because his sights wi wobble and sway all over the lan scape. The best the offhand shoote can do is to hold his rifle fairl steady, so as to slow down muzzl movement. The narrower the arc o the swing, the smaller the groups wi be on the target.

Good offhand shooting is 50 pe cent position and 50 per cent trigge control. Since you have to acquir trigger control to hit anything smalle than a house, the best way to sta is with an empty rifle. Hang a sma bullseye about one inch in size o the wall of a room. Then taking th prescribed position, you align you sights (or try to) on the bullseye

Then holding your breath you squeeze the trigger when the sights are on and hold what you have when they swing off the bullseye. You keep this up until the hammer or striker falls, noting the exact position of the sights when this happens. This is known as calling the shot. Keep at it until you can do it consistently. When you turn the rifle loose with live ammunition, you will have developed no flinch and will be pleasantly surprised at the number of hits you'll get.

When you can keep your shots in a tomato can at 30 yards or so you are ready for the next stage. You're not trying out for the Olympic team and few bucks are going to stick around while you are squeezing and holding until the rifle goes "Bang!" So having learned to do the basic things right, we drop the manual into the nearest ash can and proceed to develop our woods shooting. Here you must get on your target and get the shot away in one easy, smooth swing, knowing when the rifle goes off.

SITTING POSITION is hunter's best bet. Next to prone, it offers steadiest support of all positions. It may be assumed with feet spread wide or the legs crossed.



To develop that kind of trigger control, we find a small tree in front of a fool-proof backstop. Suspend a can from a six foot string. Use a 2 gallon can to start with. Now set it swinging like a pendulum. Go back 10, or 15 yards and start your shooting. In a short time you are swinging and shooting in one smooth movement. When you are getting that musical "tink" quite regularly on a tomato can from the 25 yard mark, your trigger control is top notch for the woods. You are now firing without dawdling around, the instant the sights are on the target and you are attaining speed.

Now the experienced woods-rifleman never takes an offhand shot at game if it's possible to use a steadier position. There is no law against a handy tree or using anything to steady yourself, if you have time. Now that you have developed good trigger control and reasonable offhand accuracy, let's take a look at the kneeling position.

There are two good kneeling positions particularly useful at times when high ground or grass prevents one dropping to the lower, steadier positions. Probably the best kneeling position is sitting on the side of the foot with the left elbow rested well out over the left knee. This position with a gun sling is fairly steady and a little higher than the sitting position. However, it is uncomfortable and only supple persons can assume it.

The regular kneeling position consists of sitting on the right heel and forcing the toes against the ground. This is the highest of the two kneeling positions and will enable you to clear grass or logs when it is not possible from a lower position. While the kneeling position is very useful at times, it is at best an uncomfortable position. You get more or less side swing to the body. It will allow the hunter to shift or swing his aim easier than sitting or prone but is not near as steady.

The sitting position is beyond a doubt the hunter's best bet when possible and time permits. Even in fairly open country when the game is jumped, the average hunter will usually do better shooting if he will drop to the sitting position. Next to prone it offers the steadiest support of all positions. While it is a good position for rifles without a sling, it is at its best with a tight gunsling. This is the best woods position and should be used whenever possible unless the game is at close range.

It may be assumed with the feet spread wide or the legs crossed. The left elbow should be extended out over the left knee cap and well forward. The rifle recoil does not then rock one back out of balance. This is one of the best rapid fire positions. The rifle action, bolt or lever, can be worked very rapidly leaving maximum time for a steady accurate aim. This is the best position for shooting down a steep slope. For running shooting at a going away buck, either straightaway or quartering, the sitting position gives you plenty of latitude for a correct lead on the game.

When a correct sitting is assumed with a tight gunsling high on the arm, and the body well forward, one can aim almost as steadily as from the prone position. Yet the position is high enough to shoot over grass, limbs or intervening ground that would completely obscure the view from the prone position.

It's a good rule in all game shooting and in all positions that the right handed shooter should face to the right of the game so that the rifle is more across the body than to the front. The reverse would be true for left handed shooters. There are many variations and combinations the woods-rifleman will use. The milk in the coconut is this.

To be an accomplished woods-rifleman you must be able to assume any position almost instantly. When you have hunted long enough (keeping it constantly in mind) the su conscious will take care of the situ tion. The woods-rifleman sizes up t game, makes his range estimati with eyes already searching for t best position or place to shoot.

Where the game is unalarmed has not seen the hunter, it is fooli to take a long shot offhand. The co hunter can nearly always find son sort of rest or some comfortable po tion that will afford him a stea shot.

In all big game shooting the wood rifleman never makes a quick or hu ried movement in the presence game, unless it has jumped and ru Many times I have had deer watc ing me, but by being careful not make any quick moves, have bee able to gradually align the sights f the shot.

Never rest the barrel on a sol support as it will shoot away fro the rest. Always cushion it with t hand. On a deer watch do not sta up as though you are doing sent duty. Keep low with a tree or oth object to break your outline and yo will not only be inconspicous b will shoot a lot better. One last thi while on the same watch.

If some do make their appea ance, sit motionless. Don't let the spot you. Spook them, and you never see the buck who may be c the tag end. This is one big reaso why some hunters see plenty of do and swear there is not a buck in t country.

If the prospective "buck buste will put in a little practice and kee in mind what he has learned wh in the woods, he will do all right f himself.

The measure of a real hunter killing game clean with one shot. doing this the woods-rifleman giv himself all the available breaks.





OUTDOOR FUN WITH A FUTURE



BRING THE OUTDOORS INDOORS

By Ted S. Pettit

YOU can usually know a fellow's hobby the minute you walk into his house. It's especially true of sportsmen, for rare is the man with an outdoor hobby who doesn't try to bring at least some of the outdoors indoors. It may be only picture of a grouse flushing, a flock of geese against the sunset, a bass jumping in a patch of lily pods or a pheasant roaring up out of a cornfield. It may be a lampshade decorated with home-made trout flies; or a lamp base made from a weathered decoy. It may be a collection of hand-carved miniature ducks on a bookcase shelf or a living collection of small growing woods plants in a terrarium on the table.

Outdoor hobbyists are a strange breed of people. They like things around them indoors to remind them of the outdoors. And the more of the outdoors they have indoors, the better they like it.

While most of these home decorations with an outdoor flavor can be purchased, they can almost be home-made, and usually at a much lower cost. The other advantage in making them yourself is that you get exactly what *you* want to fit your needs and desires.

Many of these items are well suited for Christmas gifts for sportsman friends. They are ideal decorations for sportsman club rooms, conservation club rooms, scout meeting rooms —or for your own room or den. They are easy to make if you improvise freely with what you have. They are valued all the more because you made them yourself.

Lampshades

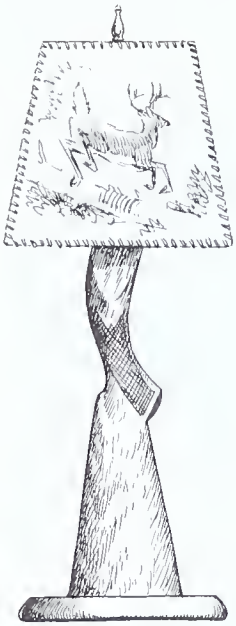
One of the easiest things to make is a lampshade. Regardless of your special interest—dogs, trout fishing, grouse shooting or big game hunting, you can capture the spirit of your personal hobby on an interesting lampshade.

The first step is to find an inexpensive ready-made square lamp shade in a so-called five and ten cent store. It's easier to start with a square shade than a round one, and what you want most is the wire frame. If you can find a square frame with a neutral colored shade covering so much the better.

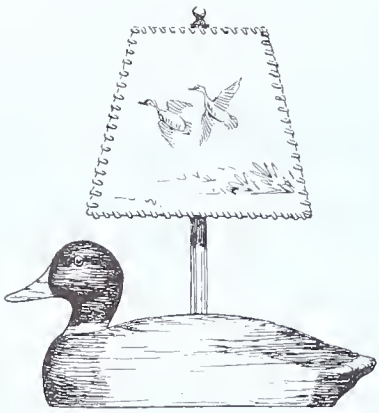
You can decorate the shade in a number of ways. Suppose you do find a shade in a light color with no design or weave to detract from your decoration. How can you give it an outdoor flavor?

One way, and an effective way, is to tie a couple dozen bucktails, streamers and large wet flies. Tie regular patterns that you use all the time but concentrate on the more colorful ones and tie them in large sizes—Mickey Finn, Edson Tiger, Grey Ghost, royal coachman, light cahill or Montreal.

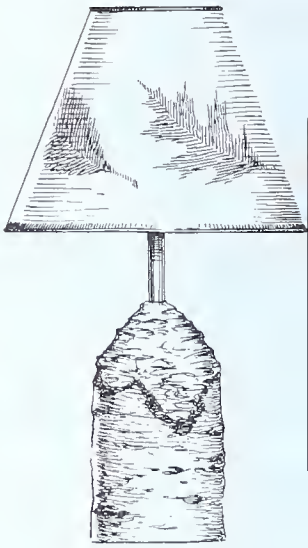
Plan on using about six to a side of the average sized table lamp shade,



GUNSTOCK



DECOY



BEAVER CUTTING

LAMPS

WITH AN OUTDOOR FLAVOR

and place them on in an irregular but pleasing arrangement. When you find an arrangement that you like, mark the spot where each streamer or fly will go and then get to work.

Use a good cement—the kind that will fix almost anything or fly-head cement will do, or the cement that is used to fasten ferrules on fly rods. Place one drop on the head of the fly and one drop on the hook at the tail. Lay the fly in the proper place and hold it there. The cement will drip down to the shade, and as it hardens, hold the fly in place. Use the cement as sparingly as possible. As the light shines through the shade, you do not want big globs of cement showing up.

As you read through outdoor magazines you frequently see pictures that are too good to throw away when the next month's issue comes out. These magazines, and their advertizers, spend a great deal of money paying top-notch outdoor artists to illustrate their articles and advertisements. The results are some of the finest outdoor paintings available. Frequently, if you read the small print under the picture you will find that reprints of the paintings are available at a very low cost, or sometimes even free. These reprints can be used to make very interesting lampshades, or may be framed as Let's start with a lampshade mad from reprints, since there is no prin ing on the back.

If you have a square lampshade a neutral color, you will probab find that the four sides are separa pieces, laced together at the top, bo tom and corners; or that the cove ing material runs all the way arour the shade in one piece and is lac top and bottom; or that the materi is folded over the frame top and bo tom and pasted to hold it fast.

If the sides are laced, remove th lacing so you can remove the fo sides. Otherwise, use a sharp raz blade and cut the material along th wire frame so that you have fo separate pieces.

Lay these pieces over the pictur that you want to mount. By holdin the shade up to the light, you s through the shade and the pictur Center the side of the shade over th best part of the picture. Careful trace the shape of the shade on th picture, so that you can cut out th picture the same size as the shad Now comes the tricky part of th project.

Get some shellac, white seems be best, and pour it into a pan dish large enough to hold the pi

ture. If you don't have such a pan, lay the picture on a piece of wax paper and paint the back of the picture with enough shellac so that the shellac thoroughly soaks the paper. Otherwise, lay the picture in the pan of shellac for about ten seconds.

In any case, when the picture is saturated lay it on the lamp shade material and smooth it out while pressing it flat. Carefully wipe off excess shellac from the face and brush off any bubble.

When the shellac dries, the picture will be fastened securely to the shade. Next, use a small paper punch and punch holes around the edge of each of the four panels. The holes should be from ½ to an inch apart and about ⅛" from the edge. Craft shops and hobby stores, as well as dime stores and other shops sell plastic lacing material. Use this "craftstrip" to lace the panels to the frame.

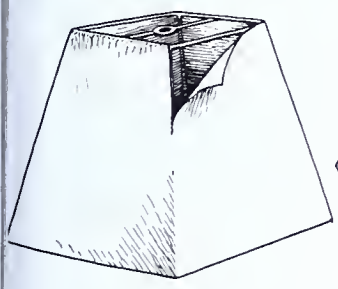
If you want to use pictures you cut out of magazines, the first method will not work since the print on the back of the picture will show when the light is on. The way you get around this is to get some sort of opaque material (pasteboard or heavy cardboard) and make new panels for the side of the frame. Paste your picture on the opaque panels in the same way as before, and lace the panels to the frame.

Just before using these lampshades, paint them with a coat of thin shellac or spray them with one of the new clear plastic sprays. They will be easier to keep clean and free of any dust.

Lamp bases to go with these shades are also easy to make and can reflect almost any outdoor hobby.

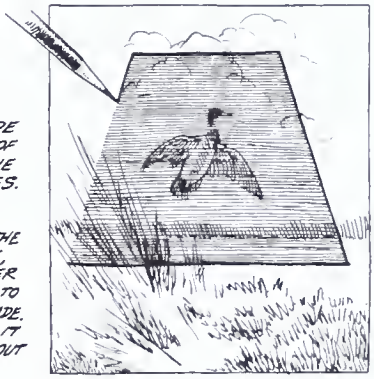
The most common bases are made from old jugs or bottles. All you do is buy a conversion unit in an electrical appliance shop, which consists of a cork or wooden plug, a socket and bracket to hold the shade. Sand the plug until it fits the neck of the bottle or jug. Use a star drill and cut a ¼" hole in the side near

PICTURE LAMPSHADE



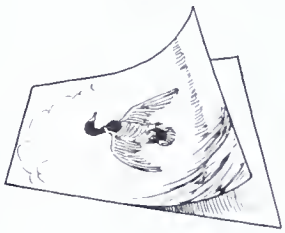
(LEFT)-CUT LAMPSHADE COVERING ALONG WIRES OF FRAME TO REMOVE THE MATERIAL IN FOUR PIECES.

(RIGHT)-PLACE ONE OF THE PIECES ON A PICTURE, ADJUSTING IT TO COVER THE PORTION THAT IS TO APPEAR ON THE LAMPSHADE. TRACE A LINE AROUND IT AND CAREFULLY CUT OUT THE PICTURE.





'K THE PICTURE IN A PAN OF 'TE SHELLAC FOR TEN SECONDS PLACE IT ON A SHEET OF WAX PER AND PAINT WITH ENOUGH ELLAC TO SATURATE IT.



LAY THE SATURATED PICTURE ON THE LAMPSHADE MATERIAL, SMOOTH IT OUT AND WIPE OFF THE EXCESS SHELLAC. USE SAME PROCEDURE TO COVER OTHER PIECES.



PUNCH HOLES ALONG EDGES OF THE FOUR PIECES AND LACE TO WIRE FRAME WITH PLASTIC LACING MATERIAL. GIVE COAT OF WHITE SHELLAC OR CLEAR PLASTIC SPRAY.

the bottom of the jug or bottle. Push one end of a six foot piece of lamp cord wire through the hole and out the neck. Fasten the wires to the socket and pull the wire out the bottom hole as you slide the cork or wood plug into the necks. Fasten an electrical plug to the other end of the wire.

But suppose you want a more distinctive lamp base, something out of the ordinary. In your wanderings through the woods look for a beaver chewed aspen stump, one about five inches in diameter. Saw off a section about 10 inches long. Use an extension bit and drill a ½" hole lengthwise through the stump section. Near the bottom of the side, drill a ¼" hole that connects with the hole that runs lengthwise, shellac or varnish the stump section and you will have an unusually attractive lamp base.

A weathered old duck decoy can be made into an interesting lamp base. In about the middle of the back, drill a one inch hole straight down. Get a piece of metal tubing—copper, aluminum, stainless steel, or any other kind—about ten to twelve inches long. Insert it in the hole so that it stands upright, perfectly straight. Cement the tubing in the hole. Fasten a lamp conversion unit in the top of the tube, wire it up, fasten on a shade covered with pictures of ducks or duck hunting scenes, and you have real outdoor atmosphere.

Some of the large department stores or gift shops in our larger cities sell lamps made of pieces of drift wood, weathered chestnut fence posts or weathered roots or knotting sections of tree trunk for fifty to a hundred dollars. Keep a look-out as you hunt or fish for interesting pieces of wood.

Another good lamp base is a gun stock. You can get an unfinished stock from most mail order houses, gunsmiths or sporting good stores at low cost. Or you can make your own from scratch. Generally, though, it's easier to start with a roughed ou stock.

When you finsh the stock, mou it on a sturdy base, stain it, if nece sary, and give it several coats of good paste wax. Rub each coat well and let it dry for several hou before applying the next coat.

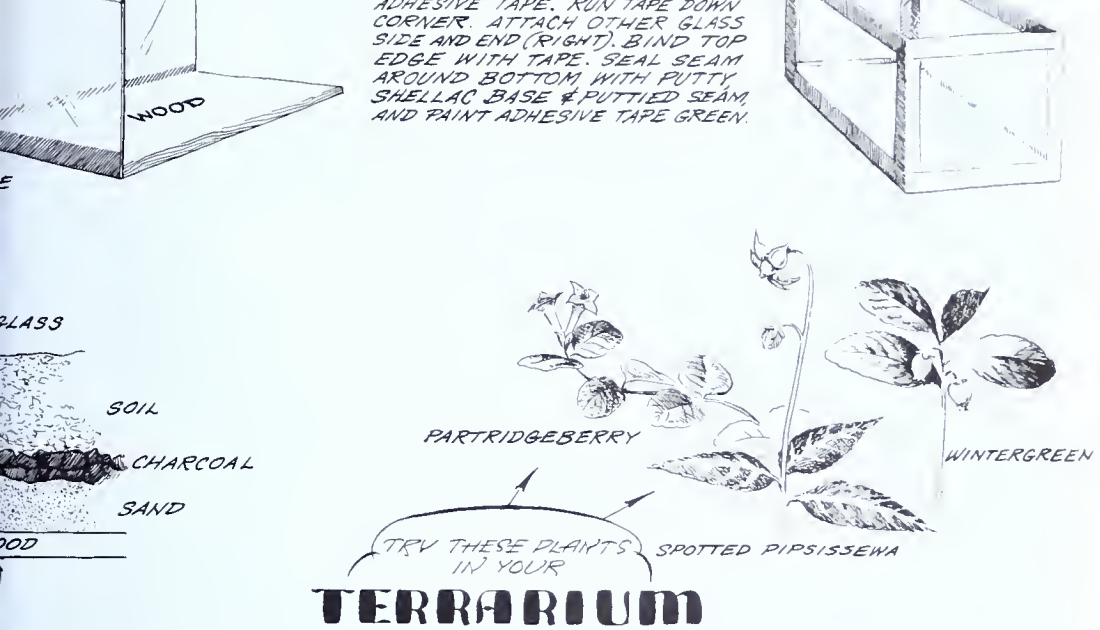
But before waxing, drill a ½" ho through the stock lengthwise for th wire and mount the lamp conversio unit on top.

Terrarium

A very attractive decoration f the home, and one that appeals most people interested in the ou doors is a terrarium. It's green a year round and the best plants a those which you collect out in damp woods soil. Whenever you loo at it you think of the woods—and even smells like the woods in sprin or after a rain.

To make a terrarium, you wi needs four rectangular pieces of gla —two pieces, 20¼" by 12¼"; tw pieces 12" by 12¼"; and for the to a piece 12¼" by 20¼". If you d not have any odd pieces of gla around the house that can be cut u ask your hardware store man f window glass, and he will sugge standard sizes that you can use. Pe haps he will even cut it for you. I addition, you will need a piece o wood 12" by 20", a roll of 2" a hesive tape, and a can of green pain

First, lay the board on a flat su face such as the top of a table. Pla one of the large pieces of glass o edge, next to the board, so that forms one side of a "box." Cut a piec of adhesive tape as long as the glas Fasten the tape under the board an up the side of the glass. One inch o the tape should be under the boar and one inch of it on the glass. Nex fasten one of the ends to the boar in the same way. Then carefully ru a piece of tape down the corne holding the two pieces of glass to gether. Thus you will have two sid done. The next step is to fasten th



other two sides in place, using tape to hold them to the board and also to fasten the corners of the glass together. You will now have a box with four glass sides and a wooden bottom.

With putty, fill in the cracks between the board and the glass sides. Or if you have any plaster of Paris, you can use it instead. If you have shellac or lacquer, paint it on the board and the putty or plaster, and let it dry well. Also paint the adhesive tape with green paint.

Bind the top of the terrarium with tape also, as well as the top edges of the sides. This will protect you from sharp edges and make cuts less likely as you work on the terrarium. Paint this tape with green paint.

Now you are ready to plant some plants in the terrarium. First cover the bottom with a layer of sand about an inch deep. On top of the sand, place a thin layer of charcoal. On top of the charcoal, place a thick layer of good rich soil from the woods where you find the plants.

Next, find several different kinds of mosses and plant them in the terrarium. Do not cover all the soil with plants, but leave ample room for the plants to grow.

Next, look for some small ferns. These ferns are in the group of plants that comes next above the mosses in the plant kingdom. Ferns grow well in a terrarium, along with mosses, and with proper care should grow for several years.

You may find other plants in the woods, such as partridge berries, or wintergreen, spotted wintergreen or other small ground plants which you may want to plant with the mosses and ferns. Try to find several different kinds of small plants, until you have a miniature piece of the forest floor growing in your terrarium.

These plants in the terrarium do not need much direct sunlight, and should not be watered too frequently. Every few weeks you may want to add a little more soil from the woods. Work it carefully around the plants.

If you have an old goldfish bowl or other glass bowl you will not have to make a container for the plants. But if you use a ready made glass bowl, get a piece of glass for a cover. You can either cut it yourself of have it cut by a glazier.

Adding outdoor atmosphere to your home is fun in two ways. Making lamps, lampshades, trays, etc. is fun in itself. But those things are also attractive to look at and useful. You can have fun now making them, and fun later using them. It's really fun with a future.

Which Is Your Christmas Tree

By Marian N. Baker

IT is Christmas and all our homes are bright with Christmas trees. If you live in the city, you probably bought your tree from a Christmas tree lot where many different kinds were sold. Some of these came from the north woods and others were grown on tree farms especially for Christmas. Or maybe you are fortunate enough to live in the country where you can go out in your own woodland and cut a tree for yourself.

Depending on where you live, you will have different trees from which to select. On the city lot there will be red pines, Scotch pines, Austrian pines, spruce, and balsam fir. In your woodlot some of the following will be growing: white pine, pitch pine, scrub pine or hemlock.

The hemlock tree is included here because it is Pennsylvania's State tree and an evergreen everyone should know. To see the hemlock in its Christmas splendor, take a hike to the woods after a new fallen snow and marvel at its breath-taking beauty in its native haunts. Do n cut it for a Christmas tree.

Here is a key to help you find t name of your Christmas tree a other evergreen trees that you m notice. Since most trees of Christm tree size do not show all the cha acteristics of a fully developed tre the ones in this key are identified a most entirely by the needles.

This is the way it works. Noti that the numbers are in sets of tw Start with number one and read bo statements under one. Decide whi one is true for your tree. Then lo at the number to the right of the o you selected. This number tells y where to go next. If, for exampl you chose the first one (needles a tached singly to the twig), you wou go to number 7 where you wou again have a choice, this time b tween flat needles and four-sid needles. If your tree happens to ha four-sided needles, it is a spruce. If has flat needles, you go on to nu ber 8.

WHICH IS YOUR CHRISTMAS TREE?

1. Needles attached singly to the twig .....
1. Needles in bundles .....
   2. Needles in bundles of 5 ..... **White Pine**
   2. Fewer than 5 needles in a bundle .....
3. Needles in bundles of three ..... **Pitch Pine**
3. Needles in bundles of two .....
   4. Needles 4 to 6 inches long .....
   4. Needles 3 inches or less, twisted .....
5. Needles shining green, soft and flexible (bundles break when bent in a loop and pressed together) ..... **Red Pine**
5. Needles dull green, stiff ..... **Austrian Pine**
   6. Needles blue green, 3 inches long, twigs rough and brittle. Cones point backward ..... **Scotch Pine**
   6. Needles yellow green, 2 inches or less. Twigs smooth and tough, cones prickly ..... **Scrub Pine**
7. Needles short flat ½ to 1½ inches, blunt pointed, white lines or dots on under surface of needle .....
7. Needles 4-sided or angled, on short pegs, sharp pointed. Stem rough with pegs after needles have fallen ..... **Spruce**
   8. Needles attached to stem by short stalks. Small upside down needles along top of stem ..... **Hemlock**
   8. Needles not attached to stem by stalk. Leave round white scar when they fall. Round buds clustered at end of twig. Very fragrant ..... **Balsam Fir**



TRAPS MUST BE ANCHORED correctly. Best way is to fasten trap chains to rocks with a piece of wire. Use pliers to tighten wire and be sure rock is heavy enough. Rock should weigh about 3 pounds and be about 12 inches long. Place rock in stream so that it lies lengthwise to current.

Muskrat Trapping Time

By Larry J. Kopp

(Photos by the Author)

ONCE again it's muskrat trapping time in Pennsylvania. And as usual this furry creature of the waterways is still the most popular of all our furbearing animals. From the standpoint of financial returns, and the large diversified number of people who try their hand at trapping them each season, the muskrat rates tops in trapping.

Needless to say, muskrat trapping offers even more than financial returns. There is something mighty satisfying about wading along a winding stream on a winter's morn, listening to the somehow haunting sound of the rippling waters as they cascade over the rocks. Or to hear the splash of a trapped muskrat as it makes a dive into the water upon hearing you or seeing the beam of your flashlight moving back and forth from one side of the stream to the other. And as the light from your flashlight moves about, playing for a few moments here and there to check a trap there will be the heart gladdening sights of neatly drowned catches to assure you that all the work and numb fingers experienced in constructing the set were not in vain.



GOOD MUSKRAT SET can be made along gradually sloping bank where animals com out to rest or feed. To attract attention of muskrat, place a round rock in water abou five inches away from bank to form passageway. Note drowning stick pushed into mudd stream bed near anchor.



PROPER WATER DEPTH for muskr trap can be determined by placing uns trap in water as shown at left. If top su face of trap jaws is just barely covered, yo have maximum depth in which trap shou be set. To insure drowned catches, wat level should be slightly under jaws of uns trap.



GOOD SET LOCATION IN DEEP WATER can be made along logs or large rocks where muskrats like to swim and play. At such sites, try to build platform for the trap. Place flat rocks in water at desired spot until proper depth of water covers topmost rock. Always remember to place traps so that spring points in opposition direction from which muskrat is most likely to approach.

Competive Archery

By Tom Forbes

WE ARE prone to consider the participation of women in the field of sport as a development of the twentieth century. Recently I secured a copy of an aquatint engraved by C. Apostool in 1794 from a painting by two famous artists—Sir Robert Smirke, R. A. and J. Emes an eminent landscape painter. The painting portrays a meeting of the Society of Royal British Archers and the figures are reputed to be likenesses of the members of the society. We can reasonably conclude that the general scene is truly representative of an archery meet in the eighteenth century.

The range appears to be a grassy meadow with a wooded background. Butts have been erected at both ends of the range and the archers are depicted shooting in both directions. This custom continues in England where the York Round is still shot in the same way. If this practice were instituted in target tournaments in the United States the York Round would proceed at a faster pace and would probably increase in popularity. Targets similar to the standard four foot circular target face in use today are fixed to the butts. A large tented pavilion with a pennant flying from the center pole occupies a prominent place in the background at one end of the range.

The competitors are divided into two divisions, one consisting of ladies and the other gentlemen and each shoots on its own range. The men are all similarly attired in short jackets of forest green color and wear identical head gear consisting of a high crowned hat with a wide brim and having a large plume affixed to the front of the crown. The ladies, too, wear headgear adorned with masses of feathers or plumes, reminiscent of the "Merry Widow" creations which crowned the heads of our great grandmothers. Apparently strict formal dress was a requirement in those days as the headgear of both men and women would certainly handicap the wearer. The ladies dresses are a model of decorum. The length is such that only the toes of the shoes are visible below the hem of the garment.

Of interest to the modern archer are the bows used by the contestants. The influence of the English long bow is seen in the length of the bows



COMPARING SCORE CARDS at the 1955 State Field Championship held at course of Perkiomen Valley Bowmen, Green Lane, was this trio of archers. Left to right: Stan Ciareinski, Monroeville, Amos Cerresini, Lebanon, and P. B. Witmer, New Castle.



shown in the painting. Archers are shown awaiting their turn to shoot with the bow standing upright at their side. The length of the bow is approximately equal to the height of the archer. The limbs are recurved through half their length. The belt quiver worn by the ladies appears identical to that worn by the modern target archer.

In the foreground one of the ladies is standing at full draw ready to release an arrow. The drawing hand is chest high and the bow string is drawn to the limit of the drawing arm. The archer's forearm and the arrow form one continuous straight line. The usual spectators appear to be occupying the seats to the exclusion of the archers who are compelled to stand while they wait their turn at the butts. The score keeper is attired in a long tailed coat and a flat hat made familiar to us by the portraits of our own Benjamin Franklin. A pair of dogs is shown romping in the foreground.

Except for the costumes worn by the archers and the erection of butts at both ends of the range, the sce with little if any change is dup cated today wherever target arch meet in friendly competition. Sp tators still usurp seats intended f the competitors and romping do and children at play still distract t attention of the archers.

Although competition is the l blood of archery, too few of t modern bowmen compete in tourn ments. There appears to be a m taken impression that tournamen are conducted solely for the bene of the expert archer and that t sole objective is to add a few poi to the total for a round and th earn a higher classification or coll a piece of hardware. We have l sight of the real function of a to nament which is to bring together congenial fellowship a group of dividuals of varying interests w have a common bond in that th enjoy shooting a bow. When we l sight of this basic fact and conc trate all our efforts in trying to c lect pins and medals, we are f quently at a loss to understand w fewer and fewer archers attend o tournaments. Too few are the fam groups attending the shoots, archery is one sport that can be e joyed by every member of the fami Too much stress has been put earning a medal and too little pla ning directed toward providi friendly competition among arch of moderate or average ability. Af all, few of us will ever rate Exp and from our limited personal c servation only experts make it a pr tice of attending tournaments. T latter statement is in fact entirely t true. In our own state of Penns vania over 17,000 bowmen took o licenses for the special archery d



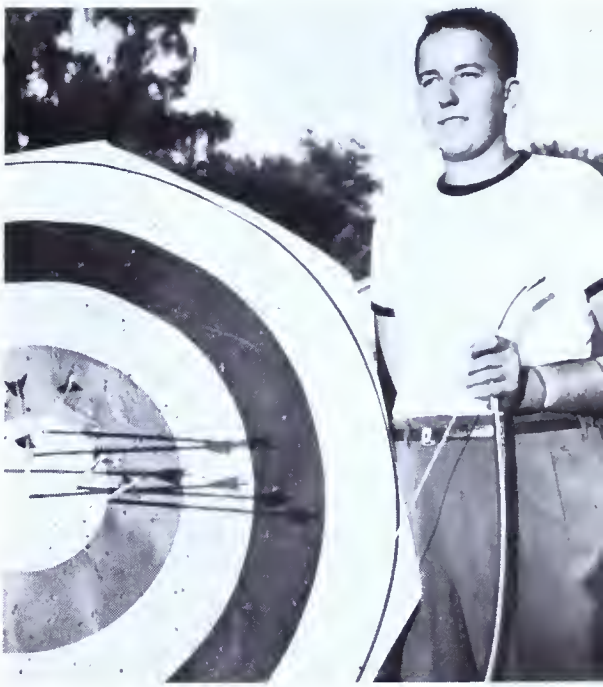
STATE LADIES CHAMPION is Mrs. Ca Meinhart, Pittsburgh, who won title PSAA 21st Annual Tournament meeting State College last September. She shot sc of 2482 of possible 2916 for new state reco

season of two weeks duration in October, while at the State Championship Field Shoot conducted under the auspices of the Pennsylvania State Archery Association the competitors numbered only 141 and over 60% were rated in the Expert classification. In comparison the annual field shoot of the New York State Archery Association brought out a field of over 500 competitors. The primary purpose of all our shoots should be to promote fellowship and friendly competition among individuals who have a kindred interest in the bow.

A tournament should mean a day in the out of doors which can be enjoyed by all the family. A social period and a basket picnic will enlarge your circle of acquaintances and help to dispel the feeling of strangeness one cannot throw off when attending a shoot where no effort is made to acquaint archers one with another. At too many shoots an archer can shoot an entire 28 target field course without learning the names of or speaking to half a dozen different bowmen.

We need competition of the kind that will attract bowmen of every class from Expert down to and including Novice. To attract more archers to your shoots, vary the all too common standard classification shoot and promote meetings designed primarily to attract the mediocres shot who makes up the greatest proportion of the bowmen. Hold Team shoots where a team shall consist of one archer of each classification from Expert A through Novice. Another method of getting your club members to participate in tournaments is to hold Family Shoots with particular emphasis placed on Junior participation with the parents on a family team.

The Novice is frequently too embarrassed to put in an appearance at a shoot where he is compelled to exhibit his lack of skill in a company composed mostly of experts. Rather than face such an ordeal, many beginners attempt to learn to shoot alone. Since they have no one to advise or instruct them, they make little or no progress. A farsighted group will arrange Novice Shoots at stated intervals and assign to each Novice, as a Coach, an experienced bowman who will accompany the Novice over the course during the shoot and attempt by advice and suggestions to assist the novice in improving his shooting technique and consequently his chances of hitting a target.



RECORD BREAKING PERFORMANCE was turned in by Bob Kaufhold, Jr., member of York Archery Club team at state tournament in State College. Kaufhold shot a 750 in team competition to enable York team to total 2,768 and erase team record for the United States by one point.

Does your club have a play area and equipment where small fry can play under the watchful eye of an adult supervisor while the rest of the family enjoys a round of competition on the range? If your club tournaments are to continue to draw bowmen in numbers, they must be designed to attract the archer of only average ability. Most of us are in that class and since archery is a sport that attracts all members of the family we like to have our shoots



PGC Photo by Dick Orr

ELEVEN POINT BUCK downed by bowhunter David Bracken, Ligonier, during 1955 special archery season in October. Deer weighed at least 150 pounds and ran about 100 yards after 3-bladed arrow passed completely through it.

Game News Columnist Authors New Archery Book

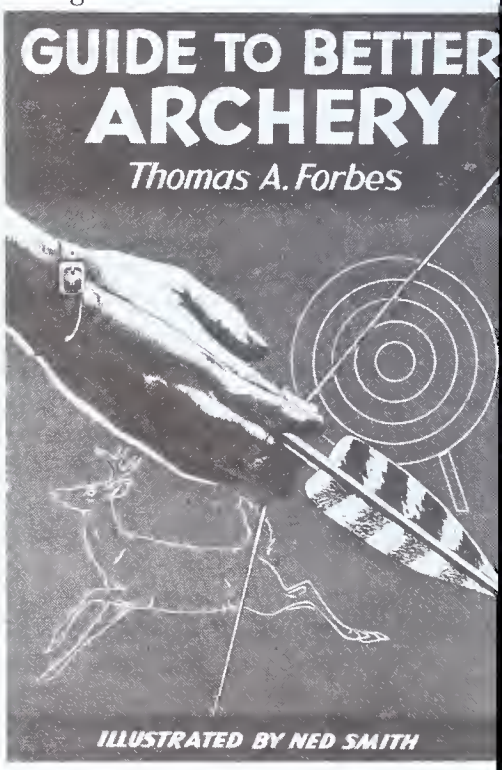
Tom Forbes, who has written the GAME NEWS archery column "Arrow Points" since the column was first started, is the author of a new book just released by The Stackpole Company, Harrisburg. Titled "Guide To Better Archery," the new volume is designed to assist the novice and expert alike in developing good shooting form, selecting proper equipment, and learning successful bow hunting methods. Chapters on use of compass and topographic maps are included in text and the author details a food and cover program to increase wildlife on club grounds. The beginner will find this guide an indispensable aid in developing the ability to hit a designated target; the more experienced archer will find it most helpful in giving valuable advice on hunting with the bow. The book is priced at $4.95.

tailored to meet the needs of t family group.

If we can raise our sights a plan more than an afternoon's co petition between a few "Hot-Shot we will increase immeasureably t pleasure we obtain from associati with our fellow archers and insu a goodly representation of the cl membership in our club tournamen

From the club level to inter-cl and finally state-wide shoots a tournaments are natural stages progress. They should result in hu dreds of archers gathering together stated intervals for an archery ho day of fellowship and friendly co petition.

If each of the member clubs h been represented at the annual Sta Field Shoot by at least one memb in each class from the club, the would have been more than 400 bo men participating in the meet. N an impossible goal and we will rea it quickly when we aim our enti program at the average bowman a quite catering to the "Hot-Shot" w has had the center of the stage lo enough.



Christmas Gift Suggestions for a Sportsman's Bookshelf

For the All-round Sportsman

ROUND RIVER: From the journals of Aldo Leopold—Edited by Luna B. Leopold. 173 pages. Illustrated with many thumbnail sketches by Charles W. Schwartz. Published by the Oxford University Press, 114 Fifth Avenue, New York 11, New York; 1953. Price $3.00. To one who knows the charm of Aldo Leopold's writing in A SAND COUNTY ALMANAC, this collection of his unpublished journals and essays will come as a new thought. An inspiring view of the total complex of nature.

AMERICAN GAME BIRDS IN FIELD AND FOREST: By Frank C. Edminster. 490 pages. Illustrated with photos, charts and maps. Published by Charles Scribner's Sons, 597 Fifth Avenue, New York 17, New York. Price $12.50. This is the most complete and modern book on its subject yet published. Fourteen of the most popular American game birds are covered, each in a separate chapter. Life history, habits, hunting, and management are completely discussed. An ideal gift for the serious sportsman and naturalist.

FUN WITH GAME BIRDS: By Fred Everett. 287 pages. Profusely illustrated in color and black and white by the author. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa.; 1954. Price $7.50. Like the game birds it covers, this volume is as pleasing to the eye, as meaty, and as gratifying to the reader. Here is a delightful book that is very readable and entertaining.

OUR WILDLIFE LEGACY: By Durward L. Allen. Published by Funk & Wagnalls Co., 153 East 24th St., New York 10, N. Y. Price $5.00. In simple language this outstanding book describes the relationships between animals and their environments. A graphic appraisal of our wildlife resources and their management—a classic on the subject of wildlife conservation.

THOSE OF THE FOREST: By Wallace Byron Grange. 314 pages. Illustrated with thumbnail sketches by Olaus J. Murie. Published by the Flambeau Publishing Company, Babcock, Wisconsin. 1953. Price $4.75. A delightful and revealing story of forest animals—a popularly written ecological record, scientifically grounded and based on a lifetime of personal experience and observation.

NORTH AMERICAN BIRDS OF PREY: By Alexander Sprunt. Published by the National Audubon Society, 1130 Fifth Avenue, New York 28, N. Y. 1955. Price $5.00. A new book on a much discussed group of birds. Illustrated with 46 plates in full color, most of them by the noted bird artist, Allan Brooks. The text describes each species of hawks, owls, eagles, ospreys, and other raptors, gives complete description, life history, nesting habits and range.

BOOK NOTES



SAFARI MZURI SANA: By Wallace Taber. Published by the author, P. O. Box 387, Denver 1, Colorado. Price $1.35. This is Wally Taber's third book on his explorations and adventures in Africa. With rod, rifle and camera he has covered much of the "dark" continent. For anyone who has dreamed of big game hunting and an African safari, this is an ideal gift. Profusely illustrated, the pictures alone make the book come alive.

For the Gun Dog Owner

POINT: By Horace Lytle. Illustrated by Ned Smith. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. 1954. Price $5.00. A "natural" for all sportsmen who go afield with dogs. The author combines his tremendous knowledge of bird dogs with an rare ability to spin a yarn. Great accounts of great dogs both past and present.

NATIONAL FIELD TRIAL CHAMPIONS: By William F. Brown and Nash Buckingham. Illustrated with many full color and black and white illustrations. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. Price $12.50. The story of the National Bird Dog Championship, run at Grand Junction, Tennessee. A colorful account of each running plus interesting sketches of officials, handlers and owners. Of special interest are the pedigrees and pictures of each winner plus much other information which will help the dog owner to trace the ancestry of his dog.

For the Fisherman

HOW TO FISH FROM TOP TO BOTTOM: By Sid Gordon. Illustrated with photos, charts and sketches. Published by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. 1955. Price $5.00. A revolutionary new book which pr vides the key to successful fishing how to "read water." Also excelle advice on angling techniques. A bo designed for experts and novic alike, written in a very readable sty by one of the greatest angling expe of the age.

LURES—THE GUIDE T SPORT FISHING: By Keith Schu ler. Illustrated by Ned Smith. Pu lished by The Stackpole Compar Telegraph Press Building, Harr burg, Pa. 1955. Price $5.00. For ar one who has been confused by t tremendous number and variety lures which are available today f the "business end" of a fishing lir here is the book that has the answ It covers fly, dry fly or nymph, pl or bug, spinner or spoon. An exc lent reference volume and a practic guide for properly outfitting yo tackle box or fly book.

For the Deer Hunter

HUNTING WHITETAILS: Frank C. Edminster. 192 pages. Illu trated with sketches and photos. Pu lished by William Morrow and Co pany, 425 Fifth Avenue, New Yo 16, N. Y. 1954. Price $3.75. Newco ers to the sport of deer hunti should find this book especially u ful. It covers the various techniqu of deer hunting, care for the bagg animal, equipment, rifles and lo bows.

ADVANCED HUNTING O DEER AND ELK TRAILS: Francis E. Sell. Published by T Stackpole Company, Telegraph Pre Building, Harrisburg, Pa. 1954. Pri $5.00. This book is a sequel to t author's earlier book. "The Ame can Deer Hunter," and is intended be a postgraduate course in the a of hunting deer. An excellent han book on the subject.

Pennsylvania Official 1955 Open Seasons and Bag Limits

(Regulations apply for Hunting License Year, September 1, 1955-August 31, 1956)

Open season includes first and last dates listed, Sundays excepted, for game. The opening ur for small game and other wild birds or animals on October 29 will be 9:00 A. M. Otherwise, shooting hours daily are from 7:00 A. M. to 5:00 P. M., but from July 1 to September 30 inclusive, 6:00 A. M. to 7:30 P. M., excepting the hours for the October archers' deer season which are 6:0 A. M. to 5:30 P. M. (All shooting hours based on Eastern Standard Time.)

	BAG LIMITS Day	Season	OPEN SEASONS First Day	Last Day
LAND GAME (Small game possession limits below)				
Ruffed Grouse	2	8	Oct. 29	Nov. 26
Bobwhite Quail	4	12	Oct. 29	Nov. 26
Wild Turkeys	1	1	Oct. 29	Nov. 26
Ringneck Pheasants, males only	2	8	Oct. 29	Nov. 26
Cobbits, Cottontail	4	20	Oct. 29	Nov. 26
Squirrels, Gray, Black & Fox (combined)	6	24	Oct. 29	Nov. 26
Squirrels, Red (closed October 1 to 28 incl.)	Unlimited		All mos. (except Oct. 1-28)	
Hares (Snowshoe Rabbits)	2	6	Jan. 2	Jan. 7, 1956
Raccoons	Unlimited		Unprotected	
Woodchucks (Groundhogs)	Unlimited		Unprotected	
Crackles	Unlimited		Unprotected	
Bears, over one year old, by individual	1	1	Nov. 14	Nov. 26
Bears, as above, by hunting party of three or more..	2	2	Nov. 14	Nov. 26
DEER: Bow and Arrow Season—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal (requires hunting license and Special Archery License), by individual	1	1	Oct. 10	Oct. 22
DEER: Regular Season—Male with two or more points to one antler: Provided, a male deer with an antler three or more inches long without points, measuring from the top of the skull as the deer is in life, shall be considered legal, by individual..			Nov. 28	Dec. 10
DEER: Antlerless Season—(requires hunting license and Antlerless Deer License), by individual			Dec. 12	Dec. 13

NO OPEN SEASON—Hungarian Partridges, Hen Pheasants, Sharp-tailed Grouse, Cub Bears, Elk, Spike Bucks with antlers less than three inches long, and Otters.

FURBEARERS:				
Skunks and Opossums	Unlimited		Unprotected	
Minks	Unlimited		Nov. 5	Dec. 31, 1955
Muskrats (traps only)	Unlimited		Dec. 3	Jan. 28, 1956
Beavers (traps only) state-wide	4	4	Feb. 15	Mar. 5, 1956

SPECIAL REGULATIONS

POSSESSION AND TRANSPORTATION LIMITS of legally-killed small game shall mean not more than the daily limit for the first day nor more than an accumulated total for each succeeding day of the open season for each species; but not in excess of the season limit, regardless of where held, stored or found in possession.

DEER—Even though there are three separate seasons for taking deer, a hunter may not kill more than one deer during the three combined 1955 seasons, whether hunting individually or with a camp or hunting party. A Special Archery License is required during Bow and Arrow Season, issued only by the Dept. of Revenue, Harrisburg, at a fee of $2.00. Antlerless Deer Licenses are issued only by County Treasurers, at a fee of $1.15, and valid only in the county for which issued. Farm occupants permitted by law to hunt without a license may also hunt for antlerless deer during the Antlerless Season on the same land as for other game. See Digest issued with hunting license for details. Under the law, no application for an Antlerless Deer License shall be approved, or license issued, to a Nonresident prior to November 12, or after December 11, 1955.

BEAVERS—No trapping at Commission-posted dams. Nonresidents may not trap beavers. One person may set, tend or operate 10 traps only. Traps must not be set on the structure of any beaver dam or house, or within 25 feet of the waterline on the structure of either thereof. Tags must be kept above ice or waterline to facilitate identification without disturbing traps. Pelts must be tagged within 10 days after season, and may not be sold or otherwise disposed of until properly tagged. Present them to the Game Protector in District or County where trapped.

TRAPPING—Traps for furbearers not to be placed, staked or set before 7:00 A. M. on the first day of the open seasons. The season indicated for Trapping closes at 12:00 o'clock Noon on last day. Traps must be tagged with metal name tags.

SNARES—The use of snares is prohibited in all counties except by special permit. (July 1, 1955)

1955 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

SPECIES	OPEN SEASONS FIRST DAY	OPEN SEASONS LAST DAY	DAILY BAG LIMITS	MAXIMUM POSSESSION LIMITS*	LEGAL SHOOTING DAYS AND HOURS (SUNDAYS EXCEPTED) BOTH DATES INCL.	HOURS (EASTERN STANDARD TIME)
Sora	Sept. 1	Oct. 29	25	25	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Rails (except Sora) and Gallinules	Sept. 1	Oct. 29	10	20	Sept. 1 to Oct. 28	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Woodcock	Oct. 1	Nov. 9	4	8	Oct. 1 to Nov. 9	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
NO FEDERAL STAMP REQUIRED TO HUNT SORA, RAILS, GALLINULES, WOODCOCK, JACKSNIPE AND DOVES.						
Wilson's or Jacksnipe	Oct. 1	Oct. 15	8	8	Oct. 1 to Oct. 15	½ hr. before sunrise to sunset
Doves	Sept. 15	Oct. 19	8	8	Sept. 15 to Oct. 19	½ hr. before sunrise to sunset
Ducks (including American and Red-breasted Mergansers)	Oct. 10	Dec. 17	4 (only 1 Wood Duck) (only 1 Hooded Merganser)	8 (only 2 Wood Ducks) (only 1 Hooded Merganser)	Oct. 10 to Dec. 17	½ hr. before sunrise to sunset
					Oct. 29 only	9:00 A.M. to sunset
Geese (except Snow)	Oct. 10	Dec. 17	2**	4**	The season for waterfowl in the Counties of Bucks, Philadelphia and Delaware, and on the Delaware River bordering such counties, shall be Oct. 29 to Jan. 6, 1956, inclusive.	
Coots	Oct. 10	Dec. 17	10	10		
Brant	Oct. 10	Dec. 17	6	6		

FEDERAL STAMP REQUIRED

MIGRATORY BIRD HUNTING METHODS

Permitted: Bow and arrow, or shotgun not larger than 10-gauge, fired from shoulder (including hand-operated and semi-automatic repeating shotgun of not more than 3-shell capacity, which must be plugged to 3 shots so that plug cannot be removed without disassembling the gun); dog; blind; boat propelled by hand; floating device other than sinkbox; artificial waterfowl decoys. Injured or dead waterfowl may be picked up by means of a motorboat; sailboat or other craft. Shooting is permitted from a boat or other craft having a motor attached if such craft is fastened within or tied immediately alongside of any type of stationary hunting blind.

Prohibited: All rifles; live duck or goose decoys; automobile; aircraft; sinkbox (battery); power boat, sailboat, or any device towed by power boat or sailboat. Waterfowl, coot, gallinules and doves may not be taken under any circumstances by the aid of salt, or shelled or shucked or unshucked corn, wheat, or other grains, or other feed or means of feeding similarly used to lure, attract, or entice such birds to, on, or over the area where hunters are attempting to take them. As used herein the terms "salt, or aquatics), flooded standing crops, flooded harvested crop lands, or, in connection with the hunting of waterfowl, coot and gallinules, grains found scattered solely as a result of normal agricultural practices, or, in connection with the hunting of doves, grains found scattered solely as a result of normal agricultural harvesting. Waterfowl may not be taken by means, aid or use of cattle, horses or mules and no motor-driven land, water or air conveyance or sailboat may be used to concentrate, drive, rally or stir up waterfowl or coots.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING

It is unlawful for a person over the age of 16 years to take migratory waterfowl unless he carries on his person an unexpired Federal migratory bird-hunting stamp, validated by his signature written in ink across its face. Not valid after June 30 following date of issue. **This stamp is not required to hunt Sora, Rails, Gallinules, Woodcock, Wilson's or Jacksnipe and Doves.**

* Possession 90 days after close of season where taken.

** Not more than 2 geese of any kind (except Snow Geese) in a straight

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